Textile Industries

OCTOBER, 1948

EXTRA COPY

formerly COTTON Textile Industries

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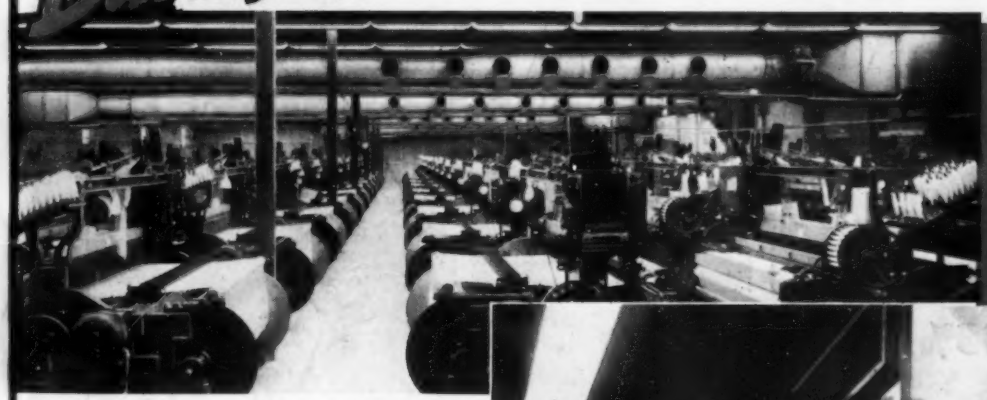
Dec 23

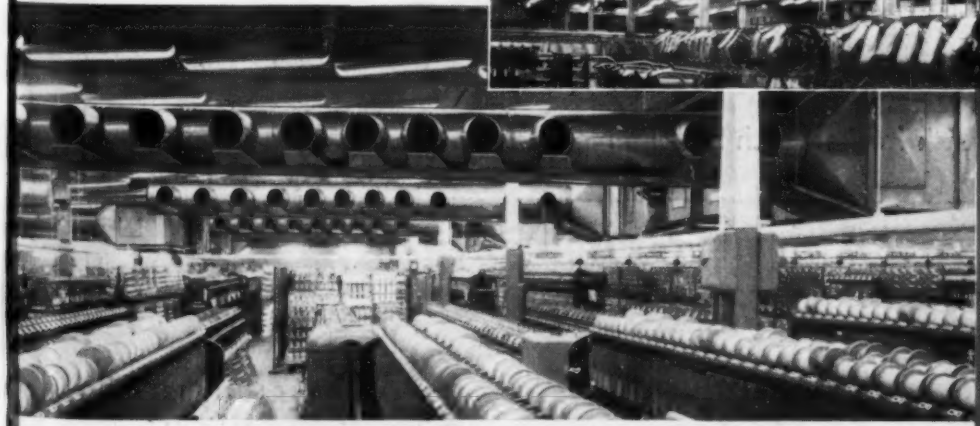
Bahnson

AIR CONDITIONING CONTRIBUTES TO SUPERIOR QUALITY OF PRODUCT



Bahnson Stainless Steel Humiduct Air Conditioning System with eliminators to deliver saturated air for controlled conditions in rayon throwing department of Robbins Cloth Mill, Robbins, N. C.

Bahnson Central Station Air Conditioning System provides controlled conditions in rayon preparatory department of Robbins Cloth Mill, Robbins, N. C.



Bahnson Humiduct Air Conditioning System using stainless steel distribution ducts for controlled conditions in the rayon weaving department of the Robbins Cloth Mill, Red Springs, N. C.

S. C. STIMSON
A-3 VIRGINIAN APTS.
GREENVILLE, S. C.

I. L. BROWN
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ATLANTA, GEORGIA

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Bahnson AIR CONDITIONING System ENGINEERS

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OCT 11 1948

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88% Saponification Crude

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Ask for Research Bulletin No. 101

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ESTABLISHED IN 1815 • PLANTS AT DIGHTON, MASS., CHARLOTTE, N. C. AND CINCINNATI, OHIO
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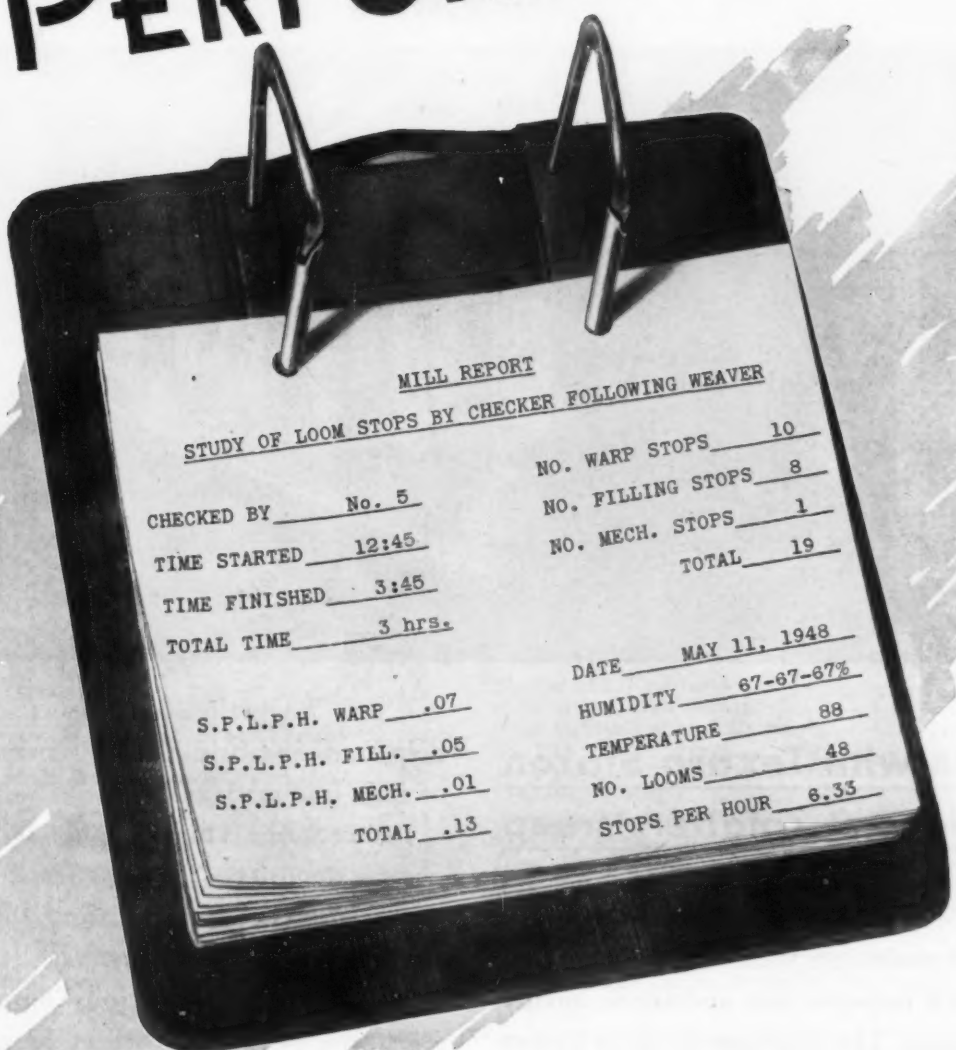
TEXTILE INDUSTRIES is published monthly at 116 E. Crawford St., Dalton, Ga., by W. R. C. Smith Publishing Company, Dalton and Atlanta, Ga., U. S. A.
Executive and Editorial Offices: Grant Bldg., Atlanta 3, Ga.
Subscription Rates, United States and Possessions, $2.00 for one year; Canada, South America, Central America, $3.00 per year; Foreign Countries, $5.00 per year.
Entered as second-class matter at the Post Office, Dalton, Ga., under the Act of March 3, 1879.
Volume 112 Number 10

PROVEN PERFORMANCE



.13 Stops per loom per hour
6.33 Stops per 48 looms per hour

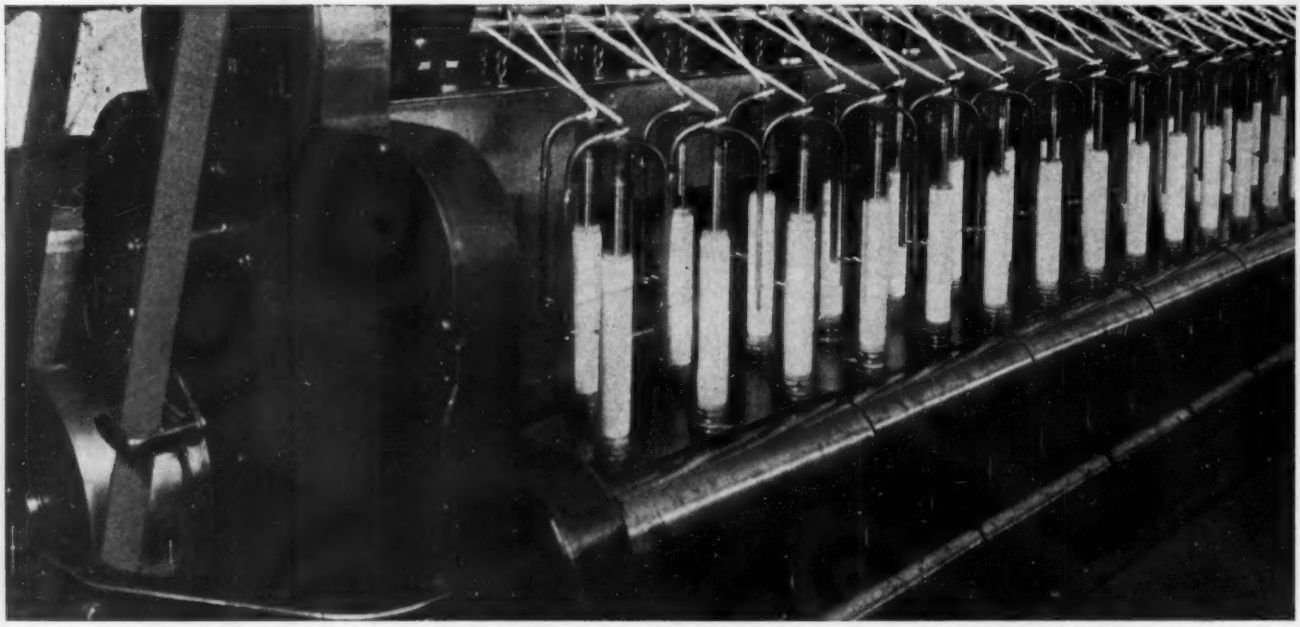
This is the report from a mill running their XD Model looms at 172 picks per minute. Only 6.33 stops for a weaver to handle each hour—a further indication of proven performance.

Look at the record!

DRAPER CORPORATION

Hopedale Massachusetts

Avoid Oil Stains



Lubricate with Texaco Stazon . . . it doesn't splatter, creep or drip

AVOID oil stain in spinning and weaving and you'll improve yarn and fabric quality and reduce costs. The lubricant to use is *Texaco Stazon*—it *stays on* the bearing surfaces.

Used on top rolls, for instance, *Texaco Stazon* won't creep onto the cot. Thus, sliver and yarn come through cleaner. On looms, *Texaco Stazon* resists shocks and vibration, won't splatter or drip onto the fabric. You get greater production of stain-free yardage.

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Let a Texaco Lubrication Engineer help you select the proper viscosities to give you best assurance of cleaner yarn and fabric. Just call the nearest of the more than 2300 Texaco Wholesale Distributing Plants in the 48 States, or write The Texas Company, 135 East 42nd Street, New York 17, N. Y.

TEXACO

TEXACO Lubricants

FOR THE TEXTILE INDUSTRY

Tune in...Texaco Star Theatre every Wednesday night starring Milton Berle. See newspaper for time and station.

Volume 112, Number 10

Textile Industries

October, 1948

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Payment for contributed articles is made upon acceptance, before publication.

"Textile Industries" has the largest circulation among the mills of the United States of any textile publication.

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ANNUAL SUBSCRIPTION
U. S., CANADA, PAN-AMERICA—$2.00
FOREIGN—$5.00

Published Monthly at 115 E. Gordon, Dalton, Ga.

By W. R. C. SMITH PUB. CO.

Editorial and Executive Offices
806 Peachtree St., N.E., Atlanta 5, Ga.

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The new LESTERSHIRE high-strength, lightweight aluminum Jack Spool completely outmodes the wooden spool.

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No Steaming Needed

—in spite of 21 days of rugged winter!

Columbia Caustic Soda Tank Car Unloaded Without Difficulty

On January 28, 1948, a Columbia Caustic Soda tank car left Barberton, Ohio, consigned to a Massachusetts plant. Heavy snow storms side-tracked the car near Buffalo. Transit time for this haul, ordinarily three to four days, stretched out to twenty-one days.

In spite of the long exposure to sub-zero weather, the temperature of the caustic liquor, loaded at 150°F., dropped only to 95°F. None of the liquor had solidified and the car was unloaded easily and completely, without steaming.

Delays of this duration are rare. The incident therefore provides unusual evidence of the highly efficient design and construction of these cars—particularly in respect to insulation—and the rigid inspection and attention given to loading temperatures.

The same care is used in the manufacture and shipping of all Columbia products. Pittsburgh Plate Glass Company, Columbia Chemical Division, Fifth Avenue at Bellefield, Pittsburgh 13, Pennsylvania.

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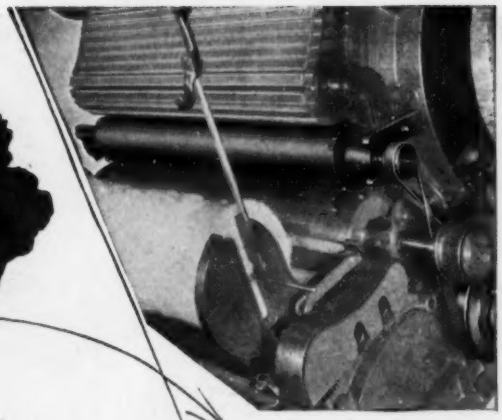
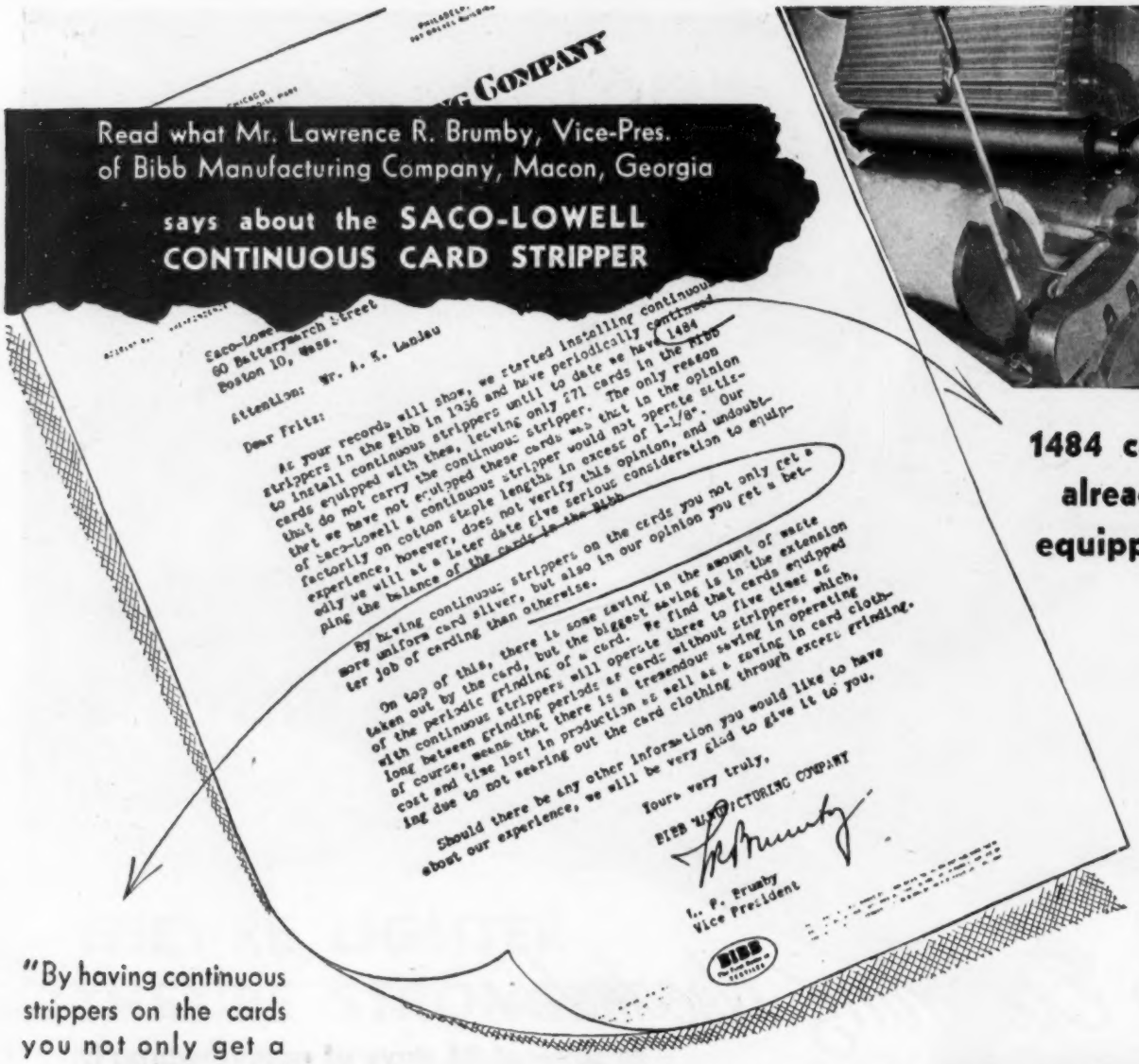
PITTSBURGH PLATE GLASS COMPANY

Read what Mr. Lawrence R. Brumby, Vice-Pres. of Bibb Manufacturing Company, Macon, Georgia

says about the **SACO-LOWELL CONTINUOUS CARD STRIPPER**



1484 cards already equipped!



Saco-Lowell
60 Batterymarch Street
Boston 10, Mass.

Attention: Mr. A. E. Landau

Dear Fritz:

At your records will show, we started installing continuous strippers in the Bibb in 1936 and have periodically continued to install continuous strippers until to date we have 1484 cards equipped with them, leaving only 271 cards in the Bibb that do not carry the continuous stripper. The only reason that we have not equipped these cards was that in the opinion of Saco-Lowell a continuous stripper would not operate satisfactorily on cotton staple lengths in excess of 1-1/8". Our experience, however, does not verify this opinion, and undoubtedly we will at a later date give serious consideration to equipping the balance of the cards in the Bibb.

By having continuous strippers on the cards you not only get a more uniform card sliver, but also in our opinion you get a better job of carding than otherwise.

On top of this, there is some saving in the amount of waste taken out by the card, but the biggest saving is in the extension of the periodic grinding of a card. We find that cards equipped with continuous strippers will operate three to five times as long between grinding periods as cards without strippers, which, of course, means that there is a tremendous saving in operating cost and time lost in production as well as a saving in card clothing due to not wearing out the card clothing through excess grinding.

Should there be any other information you would like to have about our experience, we will be very glad to give it to you.

Yours very truly,

BIBB MANUFACTURING COMPANY

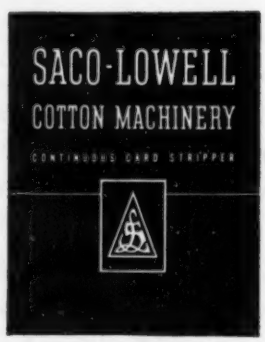
L. R. Brumby
Vice President

BIBB

"By having continuous strippers on the cards you not only get a more uniform card sliver, but also in our opinion you get a better job of carding than otherwise."

With cotton and operating costs at current levels, Continuous Strippers on the cards now operating will earn an annual return ranging from 75% to 80% . . . on new cards, from 88% to 92%. At this rate, your saving will liquidate the capital investment in about 14 to 16 months.

Saco-Lowell Continuous Strippers can be installed on almost all makes of cards. A special catalog giving technical and engineering data will be sent promptly on request . . . write our nearest office.



SACO-LOWELL

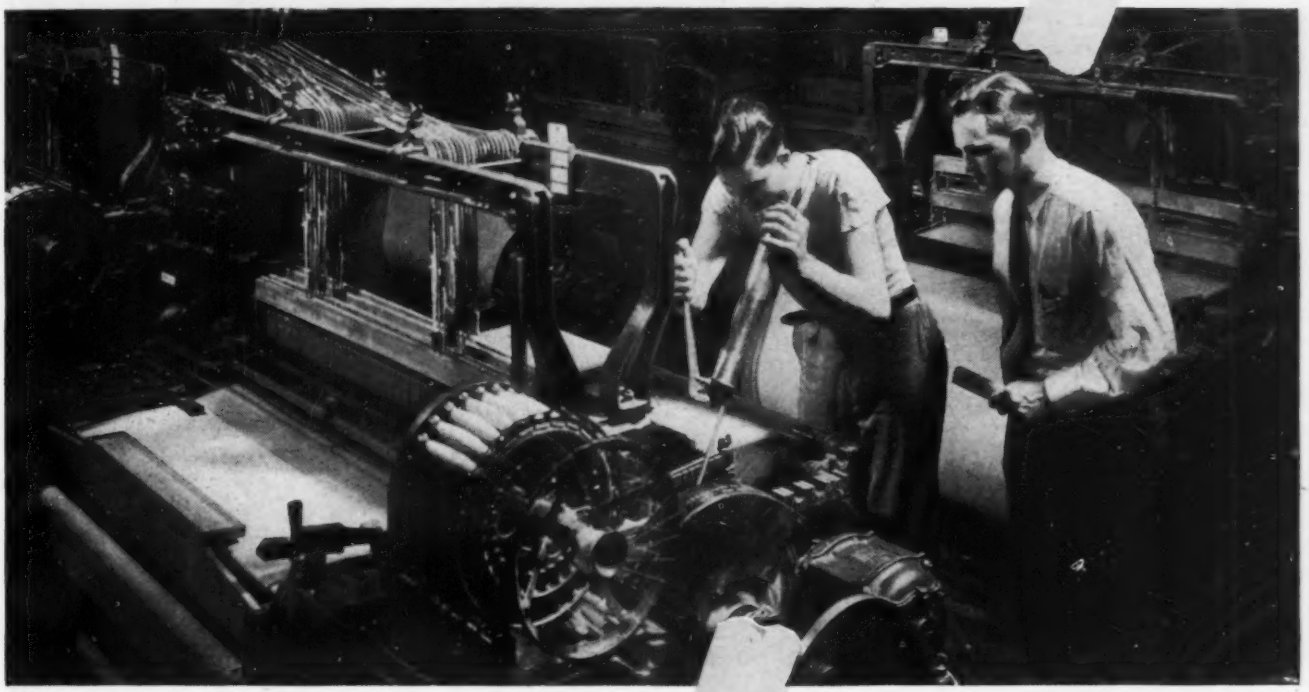
60 BATTERYMARCH STREET, BOSTON 10, MASS.

Shops at BIDDEFORD, MAINE

SALES OFFICES: CHARLOTTE • GREENVILLE • ATLANTA

let a Gulf Lubrication Engineer

work with you, for you—



- to improve loom performance,
- cut maintenance and power costs,
- reduce wear and downtime,
- eliminate spotting and oily cuts

The Gulf Lubrication Engineer "in the picture" (right) helped set up a systematic lubrication schedule for these looms.

SCORES OF LEADING MILLS find the wide experience and broad practical knowledge of Gulf Lubrication Engineers invaluable—a source of real down-to-earth solutions for their maintenance and lubrication problems.

One of these trained specialists can help you eliminate guesswork in lubrication—assist you to get the full advantage of lubricants as engineering materials. For he is thoroughly familiar with all factors which affect lubrication efficiency—and he makes available a complete line of quality oils and greases designed for service under widely varying operating conditions, no matter how severe.

When he makes a recommendation of the right Gulf lubricant and the most suitable method of application, you can be sure of satisfactory results.

If you are not already doing so, get the benefits of this helpful engineering service. Call in a Gulf Lubrication Engineer today and ask him to give you specific cases of mills, similar to yours, who have reduced power and maintenance costs through improved lubrication. Write, wire, or phone your nearest Gulf office.

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West Point, Georgia

October 6, 1948

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We invite your inquiry for further information.

Sincerely,

Ben H. Crawford

P.S. Our invoices are payable only after our clients are completely satisfied with every phase of our work.

*Names on request.

Another Goodyear Performance Record

Round and round COMPASS goes and when she'll stop nobody knows

Goodyear Industrial Rubber Products
G.T.M.-Specified COMPASS FLAT BELT FOR TEXTILE MILL TWISTER DRIVE
The COMPASS belt is bodied with multi-strand cords, spiraled continuously without a splice. Cords on opposite side of belt axis are twisted in opposite directions to insure true running.

STILL going strong after more than 24,000 hours! That's the record to date of the COMPASS Flat Belt on the twister shown here. The G.T.M. — Goodyear Technical Man — specified the belt nearly four years ago. And it's been running 120 hours a week ever since it was installed — driving 104 spindles at 10,000 to 12,000 RPM.

The endless-cord construction of the COMPASS belt made it the G.T.M.'s choice for this severe-duty drive. COMPASS belts have strength and to spare because of the center layer of low-stretch cords, truly endless and laid up with both right and left twist to insure straight running. The tough, high-stretch fabric cover adds still more to belt life, even on the toughest drives.

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SLASHER ROLL — covered with high-quality rubber compounds that withstand high temperatures and chemicals without corrugating. Reduces flakage from 50% to 75%. Gives several years' service; eliminates maintenance.

TEXAIR HOSE — most economical ever built for cleaning spindles and carding machines. Light, supple, unusually strong cover won't soften or weaken from contact with oil, but is tough and resists cutting and abrasion, insuring longer life.

E-C CORD MULTI-V BELTS — uniform in length, cross section, pull and service life. Their perfect teamwork insures lowest ultimate cost.

Compass, E-C Cord, Texair—T.M.'s The Goodyear Tire & Rubber Company

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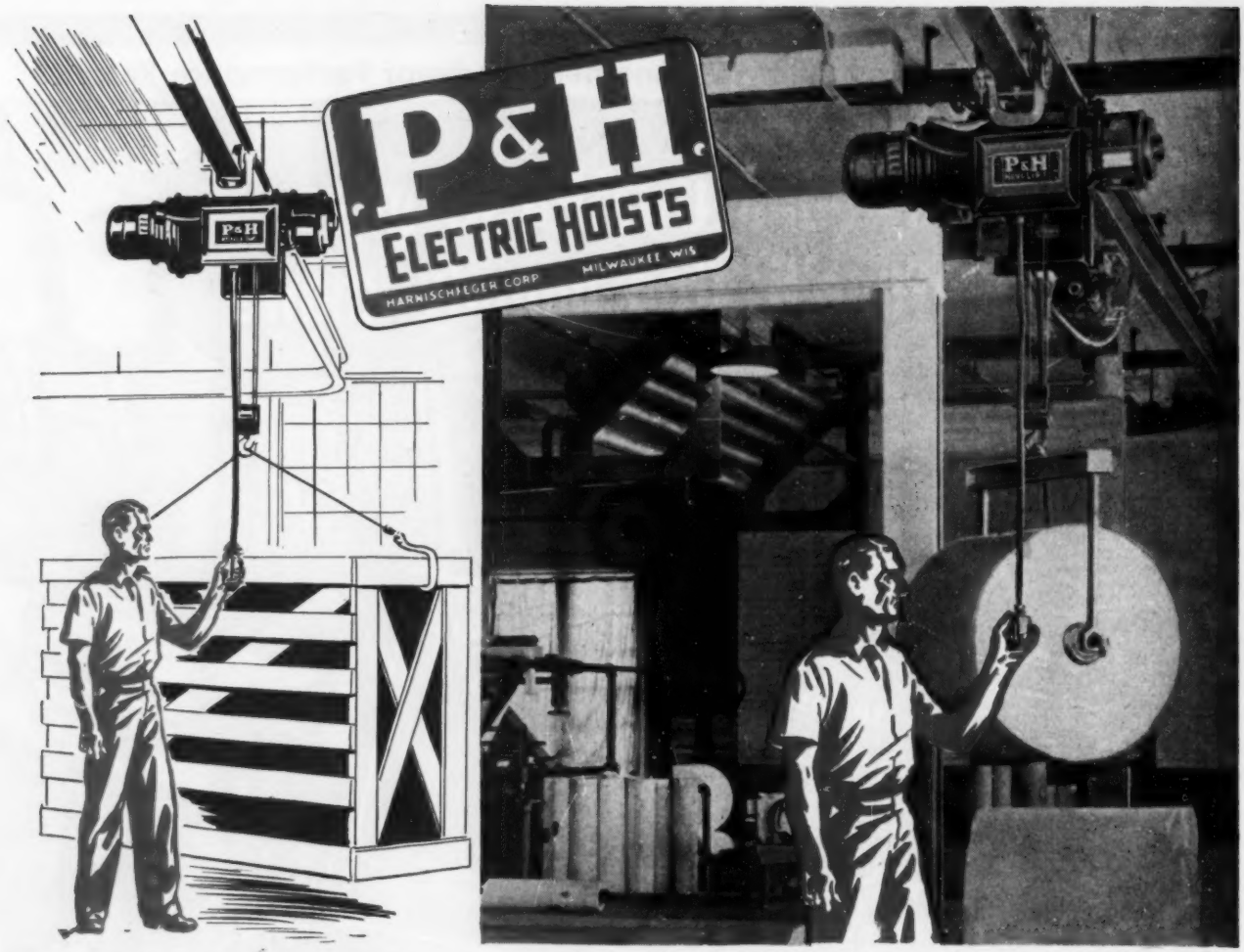
GOODYEAR

THE GREATEST NAME IN RUBBER



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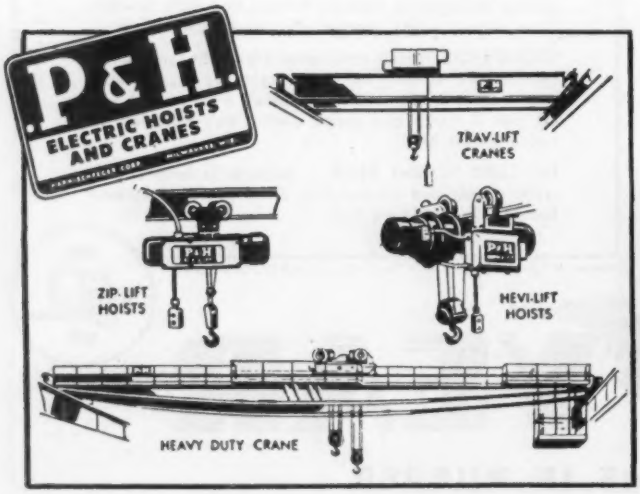
The man pushes buttons — the P&H Electric Hoist does the work. Without effort, without delay, heavy loads are lifted, moved, "spotted" into place. That's *thru-the-air* handling!

Around textile mills, no other form of handling does so much to speed production, save floor space. None is cleaner. And none is so adaptable to *all* textile operations. Many mills employ thru-the-air handling from the time materials enter the plant till the finished product leaves — and they save money with every move.

See how these savings apply to your plant. Talk it over with a P&H Hoist Engineer. If you wish further information, write us.



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HARNISCHFEGER CORPORATION

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a Yale Hoist

Here's a fast, economical way to escape from the high production costs that are dogging you. Put a Yale Cable King Wire Rope Electric Hoist to work for you. With such features as air-cooling and positive load brake it will lift and lower loads up to 12 tons, day after day, year after year without any perceptible signs of wear. There's a type and size to fit *your* needs. Capacities ¼ to 12 tons.

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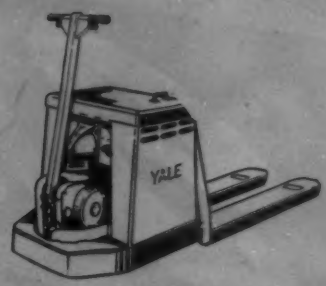
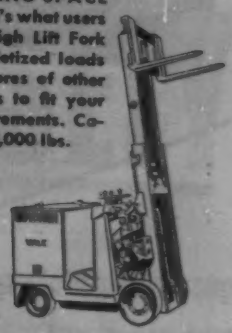
HAND AND ELECTRIC HOISTS
HAND LIFT AND ELECTRIC TRUCKS

"ON THE MOVE" WITH YALE



HEAVY, MULTI-UNIT LOADS get handled in a jiffy and with no need for muscle straining with this Yale Worksaver Pallet Truck on the job. Capacity 4,000 lbs. 6 other types of Worksaver Trucks from 1,000 to 6,000 lbs. capacities.

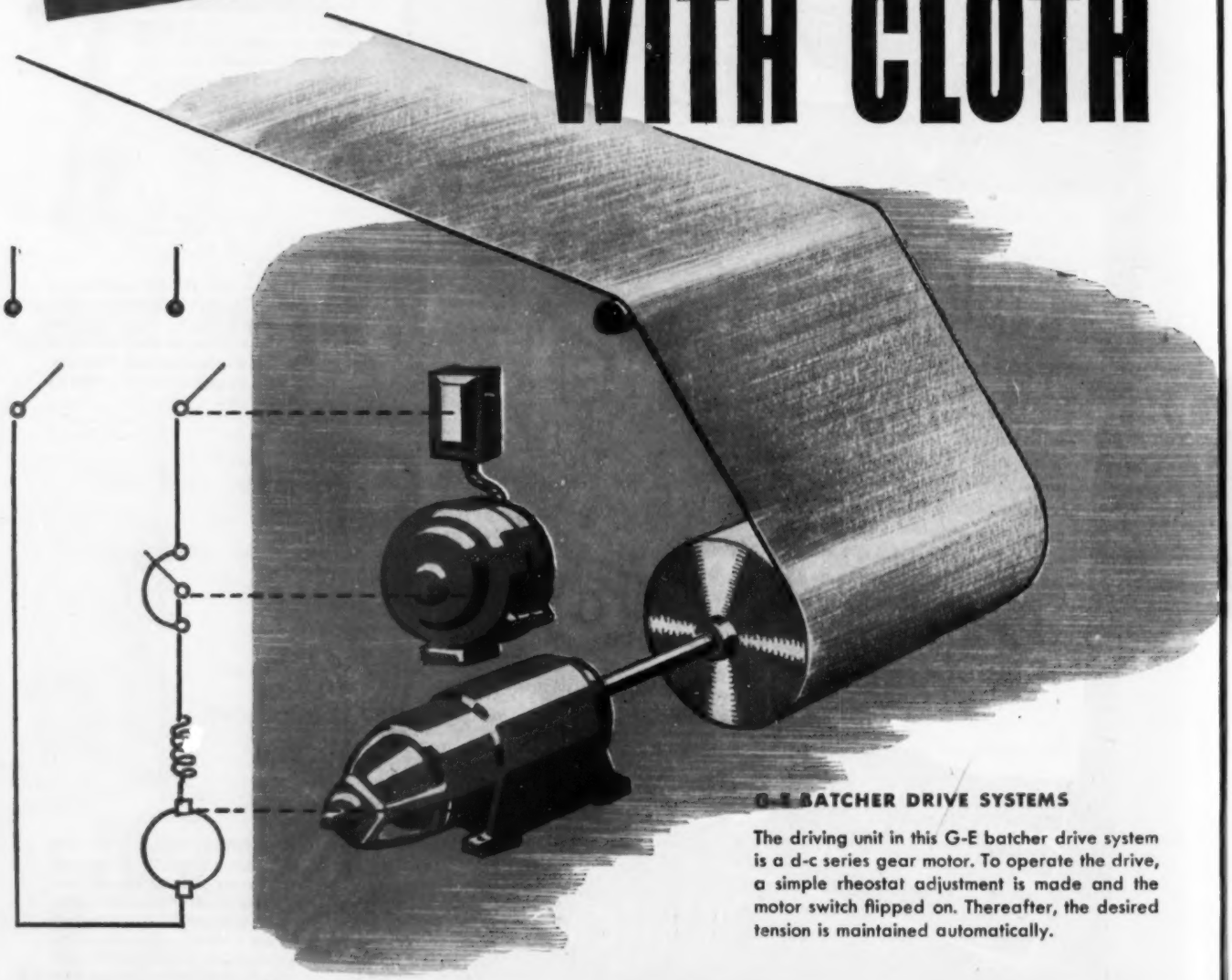
"MONEY SAVING SPACE SAVER" ... That's what users call the Yale High Lift Fork Truck. Piles palletized loads ceiling high. Scores of other standard models to fit your individual requirements. Capacities up to 60,000 lbs.



HANDLING MORE MATERIAL with less effort is routine for Yale Hand Lift Trucks. Wide range of models. Single and multiple stroke; mechanical and hydraulic lifts. Capacities from 1,000 to 20,000 lbs.

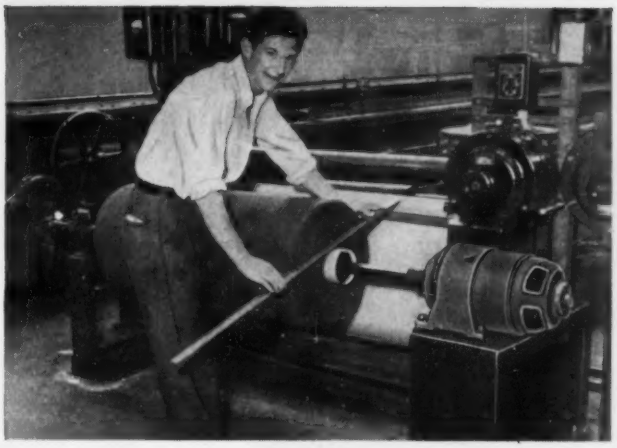
YALE OFFERS NEW SCALE LINE —The Load Kings, for the weighing, counting, batching and testing of all kinds of materials. They cut weighing time, give you prolonged accuracy, lowest possible maintenance, increased life. With capacities up to 60,000 lbs. Yale Scales meet all industrial needs.

Smooth Batching WITH CLOTH

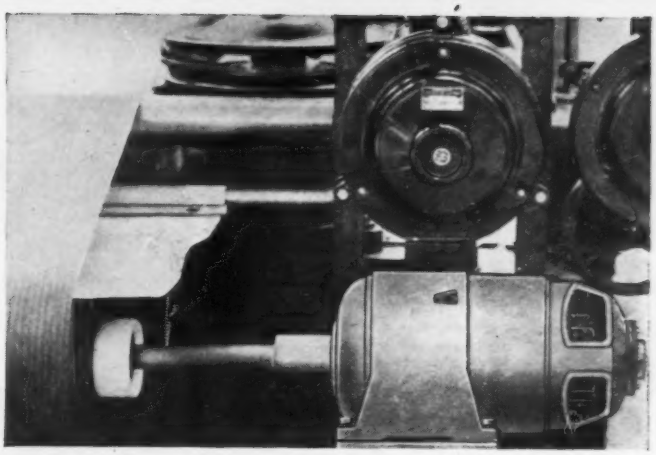


G-E BATCHER DRIVE SYSTEMS

The driving unit in this G-E batcher drive system is a d-c series gear motor. To operate the drive, a simple rheostat adjustment is made and the motor switch flipped on. Thereafter, the desired tension is maintained automatically.



This photograph dramatically illustrates how a G-E series motor batcher drive winds cloth into smooth, uniform rolls with even ends.



Simplicity is the outstanding advantage of a G-E series motor batcher drive. It consists of a d-c gear motor, rheostat, and motor control.

TENSION HELD CLOSELY!

A G-E series batcher drive needs only one simple adjustment to produce uniform cloth pull throughout a winding operation. Rolls are smooth and even, dyeing is better, and finishing costs are lower.

By holding cloth tension within narrow limits as it leaves a finishing machine, a G-E batcher drive prevents stretching of the warp—assures the operator of a uniform thread count over the roll length. Inner layers of cloth are not crushed and wrinkles and hard spots are eliminated. Thus, dyeing and other finishing operations are improved with less chance of shading and incomplete absorption.

SPOILAGE IS REDUCED!

Cloth rolls wound by a G-E batcher drive have smooth, even ends. Scuffing of the cloth during handling is avoided. The steady pull of the drive during acceleration and deceleration eliminates the "grabbing" motions of friction devices that often damage the cloth.

Little maintenance is required for a G-E batcher drive. There are no friction parts to wear out. Once a tension setting is made at the start of a wind, the drive automatically maintains this value without the aid of any mechanical adjusting device.

A DRIVE FOR ANY BATCHING CONDITION!

General Electric is prepared to furnish batcher drives to meet practically any set of operating conditions. The most widely used drive, a G-E series batcher motor, can operate over a diameter buildup range of 8 to 1 and a tension range of 4 to 1 at constant speed in yards per minute. Alternate drives are also available where greater accuracy of tension control, wide speed range, or "tensionless" winding are required. For a complete description of G-E batcher drives, write for Bulletin GEA-5012B. *Apparatus Dept., General Electric Company, Schenectady 5, N. Y.*

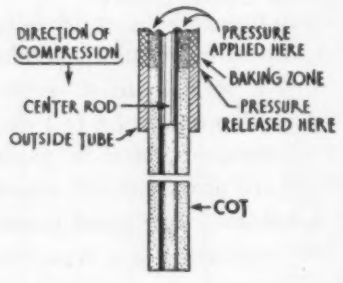
DRIVE SYSTEMS FOR TEXTILE MILLS

GENERAL ELECTRIC

660-29

STOP EYEBROWING

EXCLUSIVE EXTRUSION PROCESS PRODUCES SEAMLESS CORK COTS



Armstrong's Extruded Cork Cots have no structural weakness to cause premature breakdown. Each cot is uniform in density from inside to outside, from end to end. Each compresses evenly, spins stronger yarn.

ACCOTEX IS A REGISTERED TRADE-MARK.

THE HIGHLY FRICTIONAL SURFACE of Armstrong's Cork Cots eliminates eyebrows. It also carries clearer waste well back onto the clearer boards. There's no danger of waste's dropping off or being nipped into the work. Thus clearer picking is minimized, and the number of slubs is reduced. Moreover, cork reduces clearer waste as much as fifty per cent.

The extra "grip" of Armstrong's Cork Cots also gives you more uniform drafting and helps produce top-quality yarn. Their resilience and uniformity mean fewer ends down per thousand spindle hours, so your operators do less piecing up. These cots recover quickly from most laps and hard ends. They won't flow under roll weighting. And since they are extruded, there are no hard or soft spots to grip the yarn unevenly.

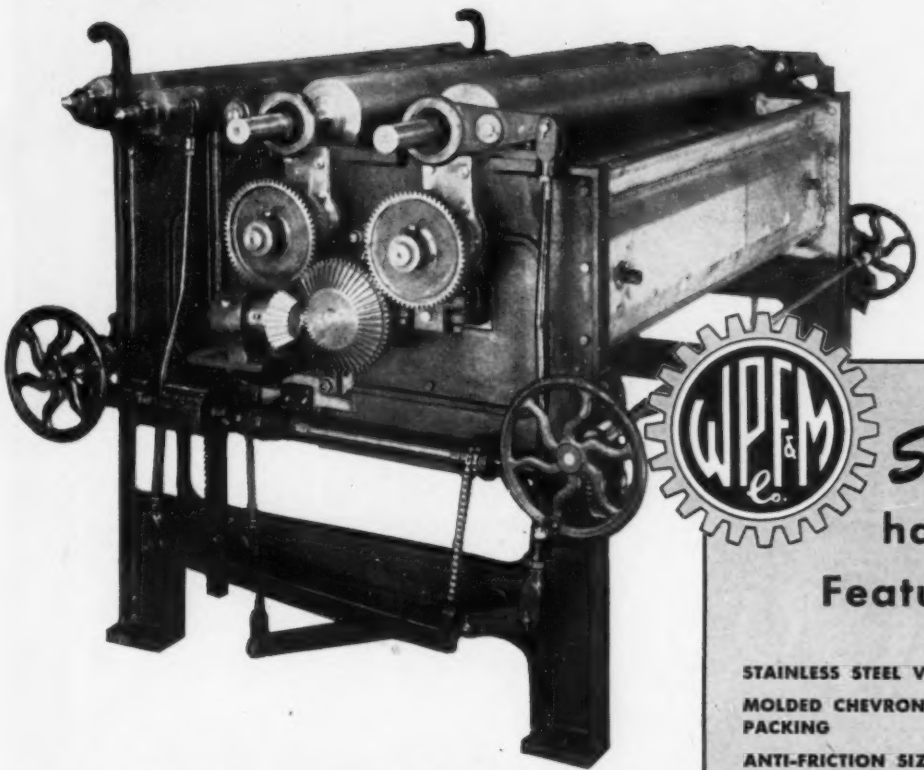
Get all the facts on clean-running Armstrong's Cork Cots from your Armstrong representative. Or write today to Armstrong Cork Company, Textile Products Department, 3610 Arch Street, Lancaster, Pennsylvania.

Better running work . . . more poundage

ARMSTRONG'S CORK COTS

ACCOTEX COTS • ACCOTEX APRONS

ARE YOUR SIZE BOXES UP TO DATE?



WPF&M

SIZE BOXES have the Modern Features you Need!

- STAINLESS STEEL VAT
- MOLDED CHEVRON PACKING
- ANTI-FRICTION SIZE ROLL BEARINGS
- ANTI-FRICTION SQUEEZE ROLL BEARINGS
- MECHANICAL OR PNEUMATIC SQUEEZE ROLL LIFT
- DEEP BRASS STUFFING BOXES
- HEAVY BRASS OR STAINLESS STEEL SIZE ROLLS
- ANTI-FRICTION GUIDE ROLL BEARINGS
- LIGHT CORROSION RESISTANT GUIDE ROLLS
- ANTI-FRICTION SIDE SHAFT BEARING

The WPF&M Size Box has the up-to-the-minute improvements necessary for top performance. The replaceable, all-welded stainless steel vat, with steam jacket if desired, supported between two sturdy, accurately machined cast iron side frames, has a capacity of 55 gallons.

Size rolls, with either heavy brass or stainless steel shells, and squeeze rolls are mounted on ball and anti-friction bearings in accurate alignment, reducing friction and stuffing box wear to a minimum. Deep brass stuffing boxes with six rings of chevron type packing provide superior sealing and extra protection for size roll bearings. Plain or cage type immersion roll can be brass or stainless steel.

The mechanical squeeze roll lift permits one man to lift heavy squeeze rolls easily. Also available with pneumatic type squeeze roll lift and McGann winding device. Furnished with cut gears or sprocket drive.

This WPF&M size box is typical of the modern mill machinery developed and manufactured in our foundry and shop. Let us help make your manufacturing economical and more efficient. We will gladly make a study of your equipment without cost or obligation and submit proposals with estimates. Often equipment you already have can be modernized at minimum cost. If we can help, write or call us.

WPF&M

Manufactured by

WEST POINT FOUNDRY & MACHINE CO.

WEST POINT, GEORGIA

TEXTILE BANKING COMPANY

Inc.

Factoring Service

Puts your sales on a cash basis
Strengthens your cash position
Relieves you of credit losses

55 MADISON AVENUE • NEW YORK

THEN, AS NOW, **COLOR** SOLD TEXTILES

When, in 1662, Louis XIV consolidated the various Paris work shops into the Royal Gobelin Manufactory, French tapestry entered its grandiose era. In this, as in all else, Europe strove to imitate the "Sun King." The subtle blendings of color in these luxurious woven hangings made them the hallmark of nobility. Then, as now, color sold textiles.

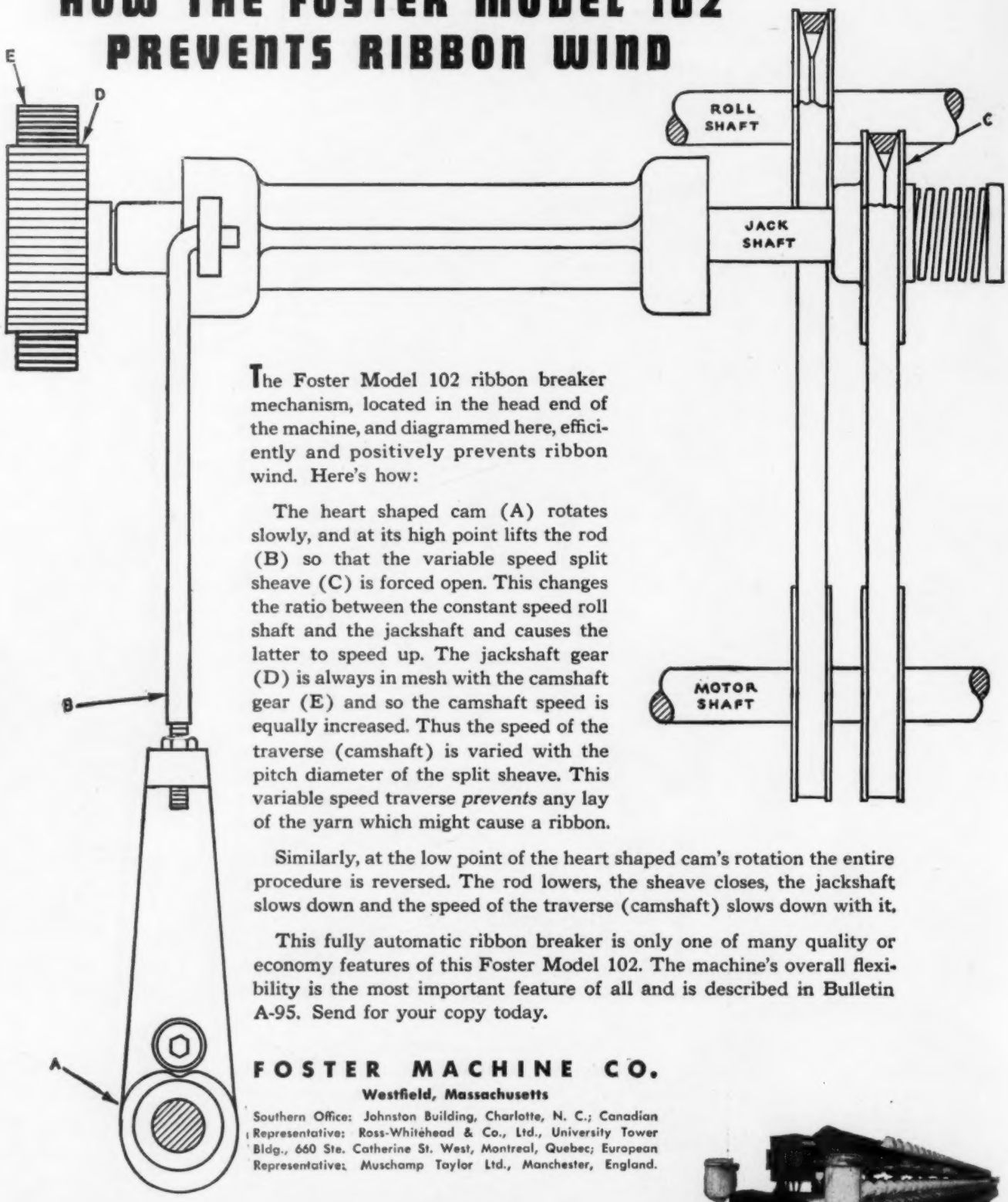
Franklin Process

LARGEST PACKAGE DYERS IN THE WORLD

PROVIDENCE • PHILADELPHIA • GREENVILLE • CHATTANOOGA

New York Representative, 40 Worth St.

HOW THE FOSTER MODEL 102 PREVENTS RIBBON WIND



The Foster Model 102 ribbon breaker mechanism, located in the head end of the machine, and diagrammed here, efficiently and positively prevents ribbon wind. Here's how:

The heart shaped cam (A) rotates slowly, and at its high point lifts the rod (B) so that the variable speed split sheave (C) is forced open. This changes the ratio between the constant speed roll shaft and the jackshaft and causes the latter to speed up. The jackshaft gear (D) is always in mesh with the camshaft gear (E) and so the camshaft speed is equally increased. Thus the speed of the traverse (camshaft) is varied with the pitch diameter of the split sheave. This variable speed traverse *prevents* any lay of the yarn which might cause a ribbon.

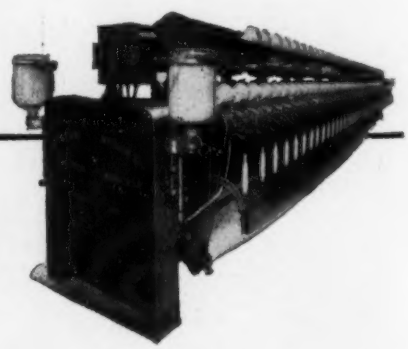
Similarly, at the low point of the heart shaped cam's rotation the entire procedure is reversed. The rod lowers, the sheave closes, the jackshaft slows down and the speed of the traverse (camshaft) slows down with it.

This fully automatic ribbon breaker is only one of many quality or economy features of this Foster Model 102. The machine's overall flexibility is the most important feature of all and is described in Bulletin A-95. Send for your copy today.

FOSTER MACHINE CO.

Westfield, Massachusetts

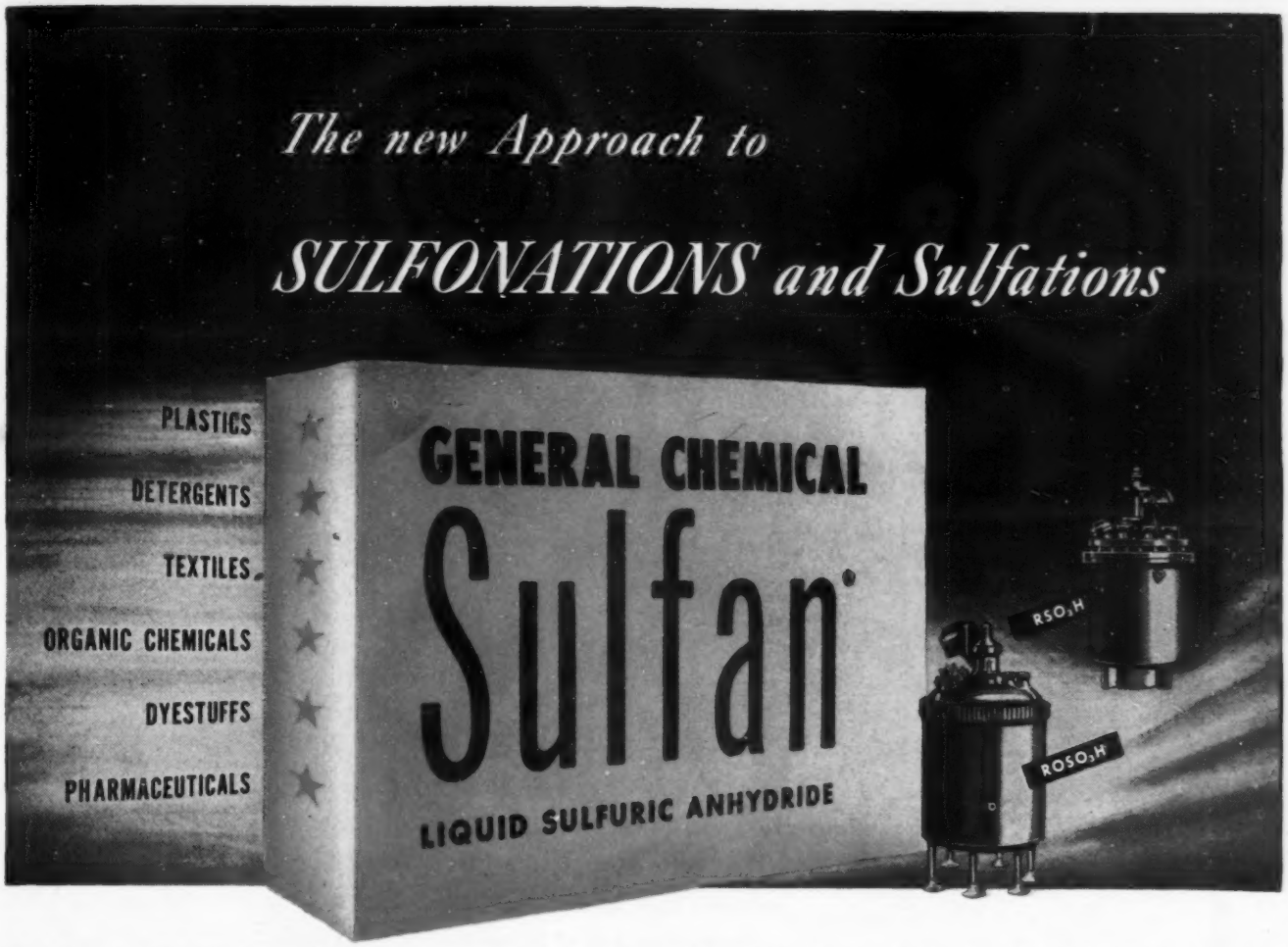
Southern Office: Johnston Building, Charlotte, N. C.; Canadian Representative: Ross-Whitehead & Co., Ltd., University Tower Bldg., 660 Ste. Catherine St. West, Montreal, Quebec; European Representative: Muschamp Taylor Ltd., Manchester, England.



FOSTER MODEL 102

The Flexible Winder

FOR COTTON, MERCERIZED, WOOL, WORSTED, MERINO, SPUN SILK OR SPUN RAYON YARNS



Less than twelve months ago General Chemical Research introduced SULFAN—Stabilized Sulfuric Anhydride—to the Process Industries. Even in that short space of time, many using SULFAN have predicted it may well "rewrite the book on sulfonation and sulfation!"

Important among the many reasons for this belief is the fact that SULFAN provides Sulfur Trioxide in stable, easy-to-use liquid form for the first time in chemical history.

In sulfations as well as in both mono- and poly-sulfonations, it offers multiple advantages:

- Eliminates costly, time-consuming neutralization and washing steps.
- Shortens processing time.
- Produces salt-free products.
- Obviates waste acid disposal.

Already finding a place in the textile, dyestuff, detergent, pharmaceutical, plastics and general organic chemical industries, SULFAN may hold a rich potential for your operations, too. Write for samples or commercial quantities.

Special Technical Literature

Available on request on business letterhead.

SULFAN—General Chemical Technical Bulletin SF-1 containing 16 pages of charts, graphs, other data on Sulfan.

Reactions of SO_3—Comprehensive, selected abstracts and bibliography compiled by General Chemical Research.

BASIC CHEMICALS

FOR AMERICAN INDUSTRY

Research and Development Department

GENERAL CHEMICAL DIVISION

ALLIED CHEMICAL & DYE CORPORATION

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In Wisconsin General Chemical Company, Inc., Milwaukee, Wis.

In Canada: The Nichols Chemical Company, Limited • Montreal • Toronto • Vancouver

Here's ONE off-color story

THAT'S WORTH REPEATING!

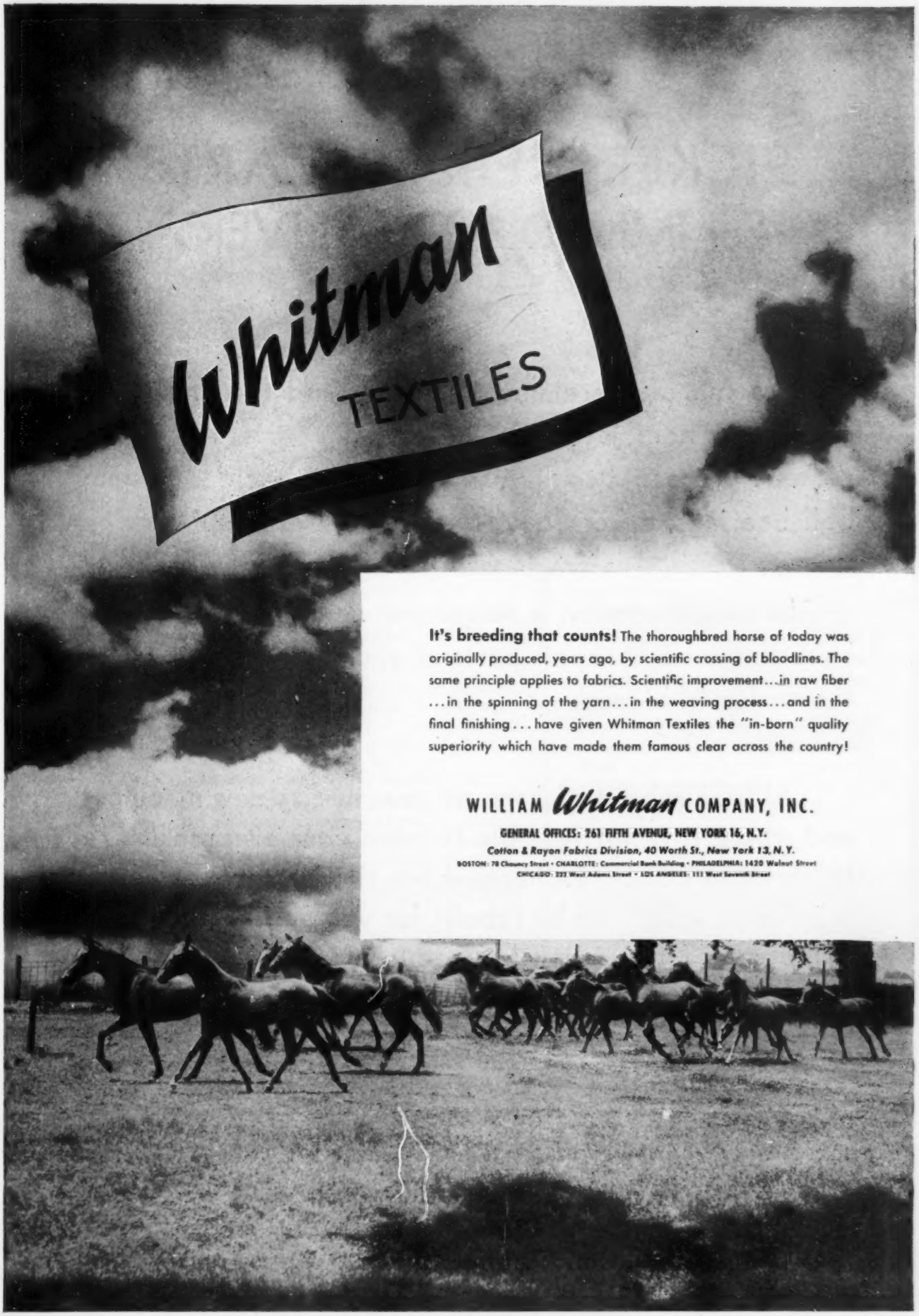
It's the one about SHERWIN-WILLIAMS wonderful GUIDE-COAT MILL VILLAGE EXTERIOR paint, that tells at a glance just where the second coat has already been applied! Saves you TIME! Saves you MONEY!

Just think! No squinting and bending to see where you've already painted! A glance will tell you just how far you've gone with your second coat of Sherwin-Williams Mill Village paint . . . because the first *Guide-Coat*, furnished in light cream, gray and white, is just enough *off-color* to make your job easier, time-saving and money-saving.

By using this new Sherwin-Williams Guide-Coat Mill Village Exterior paint, you save in the *quantity* of paint, too. There's no duplication . . . no painting over the same spot to make sure you have painted it with the second coat—*you can see* just where the second coat has been applied! You are assured of proper film thickness and maximum protection. Write us today! The Sherwin-Williams Co., Cleveland 1, Ohio (Export Division, Newark, New Jersey.)

Another Product of Sherwin-Williams Industrial Research

SHERWIN-WILLIAMS INDUSTRIAL FINISHES



It's breeding that counts! The thoroughbred horse of today was originally produced, years ago, by scientific crossing of bloodlines. The same principle applies to fabrics. Scientific improvement...in raw fiber ...in the spinning of the yarn...in the weaving process...and in the final finishing...have given Whitman Textiles the "in-born" quality superiority which have made them famous clear across the country!

WILLIAM *Whitman* COMPANY, INC.

GENERAL OFFICES: 261 FIFTH AVENUE, NEW YORK 16, N.Y.

Cotton & Rayon Fabrics Division, 40 Worth St., New York 13, N. Y.

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CHICAGO: 222 West Adams Street • LOS ANGELES: 111 West Seventh Street

PICKER REPAIR PARTS
For IMMEDIATE DELIVERY

We manufacture and keep on hand for immediate delivery a complete stock of repair parts for Kitson pickers. We can also furnish many parts, such as screens, ball bearings, aprons, and beaters, for other pickers.

In an emergency, a telephone call or telegram can have the needed repair parts at your plant the day after the order is placed.

Aldrich rebuilt pickers are exactly like new machines, and where it is not feasible to have your own pickers rebuilt, these can be exchanged for similar sections in our warehouse which can be rebuilt for you and installed with little or no interruption to production.

AldricH MachinE
Greenwood WorkS South Carolina

Parts like these . . . and many others

Metallizing offers the textile mill maintenance shop a tremendous opportunity for cutting machine repair costs all along the line—from picker room to finishing plant—not only in saving man hours and material, but in getting equipment back in production with minimum shutdown time.

Now—Only 3 Steps Needed for Metallizing

Just a rough cleaning cut and .0015″ to .002″ sprayed coat of Metco's new Sprabond prepares most parts for build-up with any metal available in wire form. Sprabond bonds itself to the part and builds a perfect surface for metallizing. Now you can apply long-wearing coatings on inexpensive base metals in only **three steps** instead of the eight previously required.

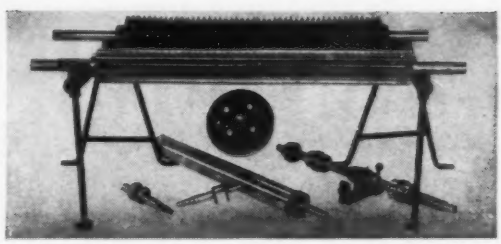
Free Booklet Shows How Metallizing Whips Waste in Textile Mills

Metco's new booklet lists over 40 textile machine repair jobs—from picker and card rooms, drawing frames, spinning, slasher and weave rooms—with photographs of parts, working times and costs. It shows how textile mills are cutting machine repair costs to the bone . . . with metallizing. Send for your free copy today.

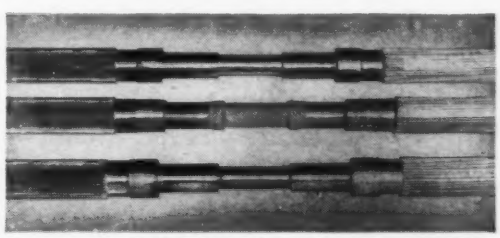
Installations to Fit

Metco's range of equipment installations makes metallizing an economical investment for the small as well as the large mill. For further information—or the name of the Metco field office in your district—write

METALLIZING ENGINEERING CO., INC.
38-16 30TH STREET METCO LONG ISLAND CITY 1, N. Y.



Picker feed roll, beater, high compression calendar roll, regular compression roll, comb box eccentric, cylinder head, and twister—just a few of the many parts that can be reclaimed and made good as new by metallizing.



Steps in metallizing fluted roll journals. Cleaning cut has been taken on roll journal at top; lower journal has been prepared with Metco's Sprabond; bottom journal is finished and ready to install.

METALLIZING ENGINEERING CO., INC.
38-16 30th Street, Long Island City 1, N. Y.
Please send me, without obligation, "Whip Waste with Metallizing."

Name_____
Company_____
Street_____
City_____ Zone____ State____

STOP COLOR BLEEDING

with *CULOFIX

Preserve crisp detail and contrast of prints by using time-tested Culofix as an after treatment.

Kill bleeding troubles no matter where they occur—in the finishing bath—batching up after dyeing—in cross dyeing, etc.

Improve water fastness of direct colors and impart a very desirable soft, full finish at the same time, thus eliminating an extra finishing operation. (Where no softening action is needed, Culofix L should be used.)

If fastness to water or prevention of color migration is essential to your direct color dyeings, write for Technical Service Bulletin #204-106.1. Our technical staff is at your service without obligation.

*REG. U.S. PAT. OFF.

Arkansas Co. INC.

Manufacturers of Industrial Chemicals for Over 40 Years

NEWARK, NEW JERSEY

with DAYCO

ROLL COVERINGS

In a test in which 1,134 spindles were observed and which covered 13,261 spindle hours in a large southern mill, *Dayco* Roll Coverings showed fewer lap ups on top and bottom rolls and 11.7% less unclassified ends down. Actually, there were more than three times as many lap ups on the bottom rolls where competitive roll coverings were used, although all the bottom steel rolls had just been reworked and were in top operating condition. Both the *Dayco* and competitive roll coverings had been in use from three to four months at the time the test was conducted.

Test after test, under actual operating conditions, proves that *Daycos* run with 10% to 50% fewer ends down than other makes of roll coverings. *Daycos* consistently outperform other roll coverings because they are built with exactly the right amount of cushion and the correct coefficient of friction. *Daycos* are not affected by temperature or humidity. They retain their superior physical properties throughout their long service life. In fact, the characteristics of *Dayco* Roll Coverings are such that *Dayco's* surface drafting properties improve with use.

Put *Daycos* on some of your frames and test them yourself. Let them prove for themselves that they will give you better service and longer service at less cost. For complete information, write *Textile Products Division, The Dayton Rubber Company, Woodside Bldg., Greenville, S. C.*

Write today for your free copy of Dayco's new Cot Grinder bulletin, No. A-550.

Dayton Rubber

THE MARK OF TECHNICAL EXCELLENCE IN NATURAL AND SYNTHETIC RUBBER

TEXTILE MACHINERY and

PUBLISHED BI-MONTHLY FOR TEXTILE MILL EXECUTIVES AND OPERATING PERSONNEL BY PROCTOR & SCHWARTZ, INC.

• OCTOBER • 1948 •

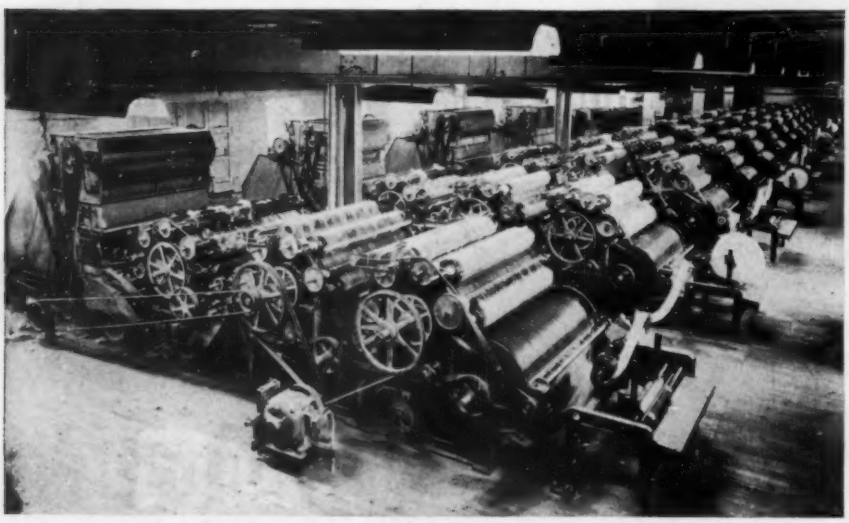
Metallic Wire Worsted Cards Score New High in Output

Wherever Proctor metallic wire worsted cards are in operation production figures reach new high levels. These Proctor metallic wire worsted cards have far greater capacities than any cards with less recent types of clothing. Actual production figures compiled in one mill where some metallic worsted cards were replacing older type cards revealed amazing facts. The new Proctor cards operated in slightly more than ¼ of the floor space formerly required. The new cards increased production 185.6% per card. The average production per card, per hour was raised from slightly more than 32 pounds to nearly 93 pounds. The check further revealed a 40% saving in labor and saving on 51.3% in power consumption. With all of this increased production and decreased cost of operation—careful study of the carded wool revealed that the quality of the sliver was better than that ever produced before on any type of card in the mill. This mill's card room is now completely equipped with Proctor metallic wire cards.

The situation is the same in mill after mill where this revolutionary type of carding equipment has replaced machines of less recent design. There is a strong trend throughout the industry to this modern equipment as evidenced by the fact that there are firm orders on hand for more than 60 complete cards.

If you would like to learn first hand what the production possibilities of your card room would be if equipped with Proctor metallic worsted cards—allow Proctor engineers to study your mill and give you the figures.

In the meantime you may well be interested in the complete findings of the survey highlighted. It is available in booklet form upon request. Write for your copy.



Card room of National Worsted Company, Jamestown, N. Y., another progressive mill now completely equipped with 12 Proctor metallic worsted cards.

NEW CATALOG AVAILABLE ON PROCTOR HOSIERY BOARDING MACHINES

A new 24 page, profusely illustrated catalog on Proctor Automatic Hosiery Boarding equipment has just recently come off the press and is available on request.

Included is the latest information about both the machine for women's hosiery and the companion one for men's socks. Also it includes a complete time study showing by actual tests, the increased production and savings possible with this equipment when compared to less recent or less automatic methods.

Write for your copy today.

DELIVERY DATES ON MANY MACHINES BEGINNING TO IMPROVE

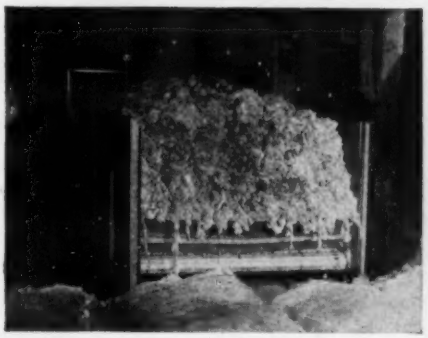
It will be good news to the textile mill in urgent need of new equipment to learn that the delivery dates on many Proctor machines are beginning to improve.

While the situation is somewhat better than a year ago—it is still wise to give careful consideration to your future equipment needs and place orders now for future delivery—for orders are still being filled in the order received.

Let Proctor engineers discuss your needs and give you an accurate idea of when you may expect delivery.

DRYING EQUIPMENT *News*

Rocar Opener Makes Possible Double Capacity Better Opening of Grease Wool



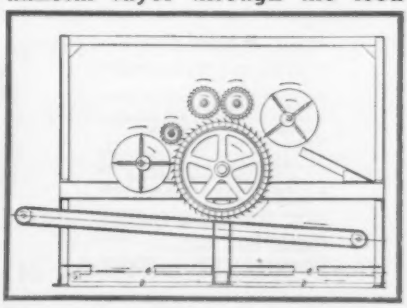
Wool is piled high in feed hopper

Wool about to enter first section

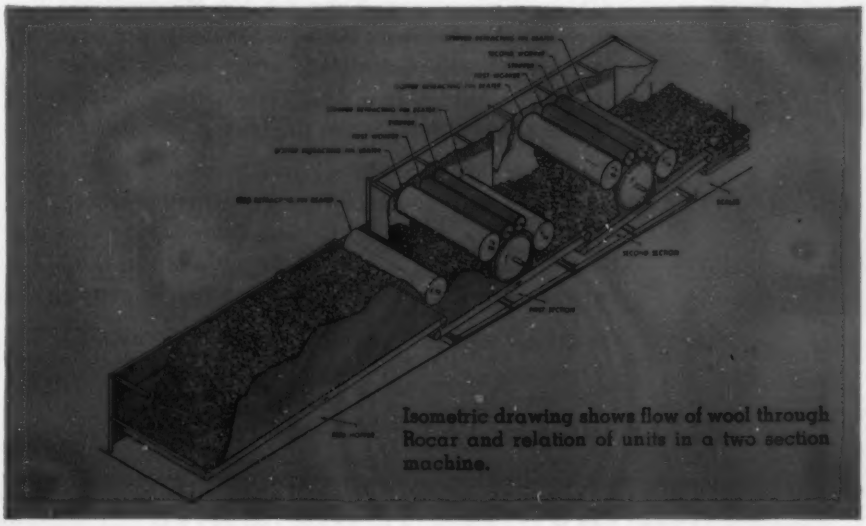
Close-up of wool on main cylinder

Rocar is the name applied to the recently developed device for opening of wool or similar fibers, preparatory to scouring or other processing. It combines much greater output than could previously be achieved—with improved opening of the wool and more gentle treatment of the fibers. In addition—it represents a great simplification in machinery. While present commercial equipment is limited to capacities of about 1500 to 3000 lbs. per hour, per machine —Rocar has a capacity of 4000 to 8000 lbs. per hour, per machine. The Rocar replaces the bale breaker, picker, and cylinder wool opener—combining all three into one high capacity, gentle, opening and feeding device. Variable speed control makes it possible to tie the control of the capacity of the Rocar up with some device such as a weighing scale, to uniformly control the capacity at a desired setting.

Diagrammatic view gives a quick picture of how a two section Rocar operates. Wool is dumped into a magazine feed and piled as high as the sides of the hopper will permit. The conveyor which supports the wool ratchets forward feeding the wool to the first Rocar section. Just before entering the first section there is a retractable pin beater which breaks down roughly piled wool and feeds a uniform layer through the feed hopper to the first section. The wool is worked in the first section and then passed into the second section for more working before the wool is discharged from the machine to a conveyor, scales or a scouring range. The Rocar may be designed as either a one or two section machine depending upon the mill's requirements.



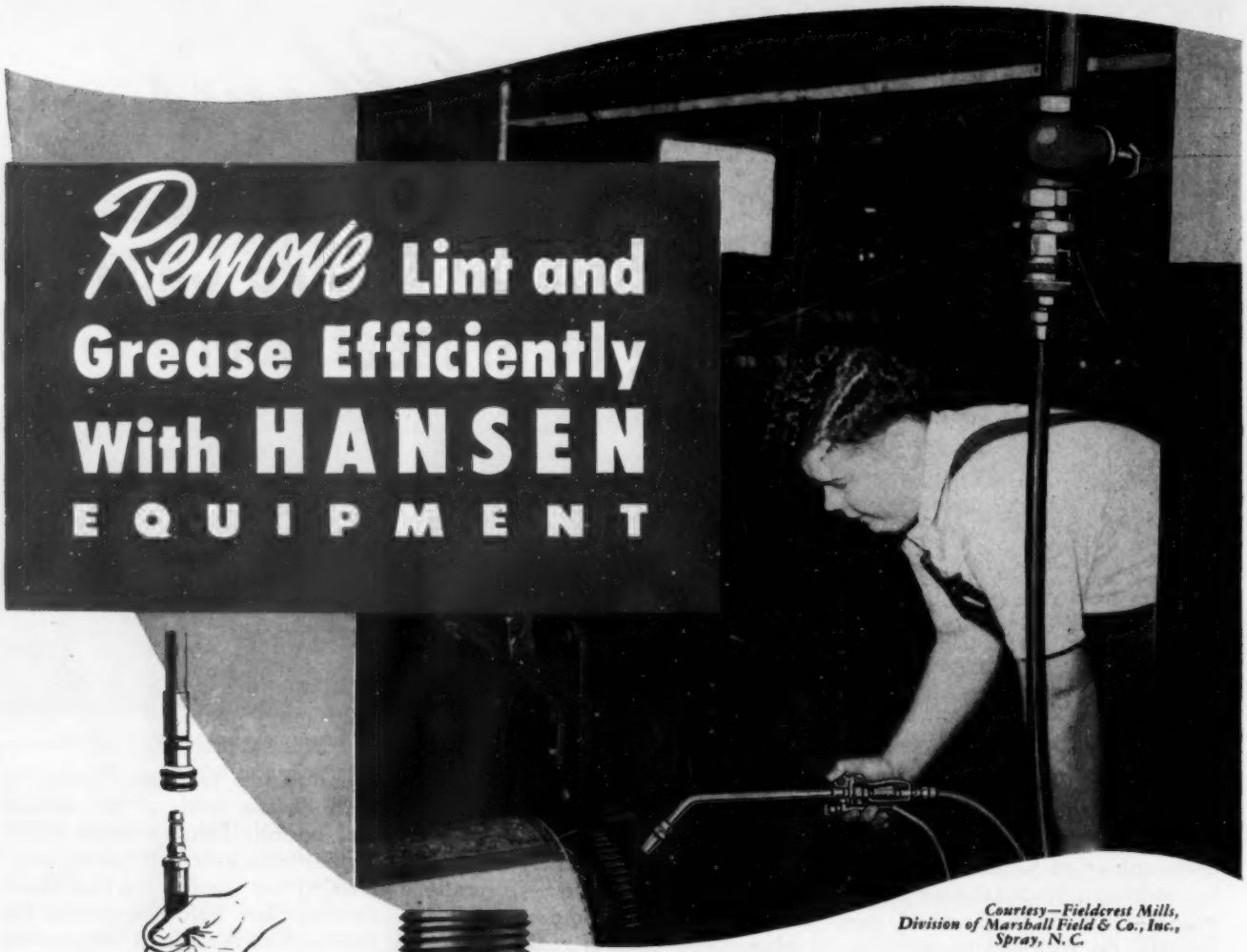
One unit of a Rocar showing positions of main cylinder, workers, doffers and retractable beaters.



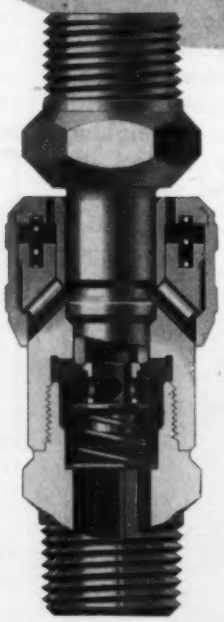
Isometric drawing shows flow of wool through Rocar and relation of units in a two section machine.

Proctor & Schwartz Inc • 610 Tabor Road • *Philadelphia 20, Pa* •

Remove Lint and Grease Efficiently With HANSEN EQUIPMENT



Courtesy—Fieldcrest Mills, Division of Marshall Field & Co., Inc., Spray, N. C.



● Cleaning looms in weaving mills is a simple matter when the HANSEN cleaning system is used. Lint and fly collections are first blown away by air from the HANSEN Air-Liquid Spray Cleaner. Opening of the liquid valve then admits solvent to the air stream for more complete and thorough cleaning.

A simple movement of the HANSEN quick-connective coupling releases the hose for use at the next air station. Merely pushing the plug into the socket connects the hose. Air is "off" automatically upon disconnection . . . "on" when the hose is plugged in.

The HANSEN system of removing lint and foreign matter from card rooms, spinning frames, winders, twisters, and looms is unequalled. Investigate this economical and efficient method of keeping your equipment free of quality-damaging lint and foreign matter.

Write for new industrial catalog No. 47

HANSEN

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QUICK CONNECTIVE FLUID LINE COUPLINGS . . .

THE HANSEN MANUFACTURING COMPANY

4031 WEST 150th STREET • CLEVELAND 11, OHIO

DON'T MISS THE BIG "NEWS" AT FOXBORO BOOTH 412-413 SOUTHERN TEXTILE SHOW

NEW!
MULTI-RECORD DYNALOG* RECORDER

prints up to 6 temperature records, at 6-second intervals, in 6 different colors, on one ROUND chart! Absolutely no running together of colors.

*Reg. U. S. Pat. Off.

NEW!
ROLL SURFACE TEMPERATURE RECORDERS

give continuous accurate temperature record of any roll surface — control if desired.. No scoring of roll, no ambient temperature errors.

NEW!
d/p CELL

Radically new simplified method for flow measurement of steam, air, or any liquid. ℵ316 S. S. construction. Compact. Light weight. No mercury. Requires no condensing chambers, seals, or purges even in corrosive service.

NEW!
DEW POINT RECORDER

employing the F-patented Dewcel Element for humidity measurement or control. No water boxes, samples, refrigeration, or moving air. Dew point readings readily converted to relative or absolute humidity.

NEW!
DIAL THERMOMETER

with new ⅛" Self-protected Capillary and Bulb of Type 316 Stainless Steel. Bulb and capillary are one continuous welded assembly. No protective tubing needed. Specifically designed for corrosive atmospheres and vapors.

ALSO

MODEL 40 DUAL CONTROLLER

for controlling and recording density and liquid-level, conductivity and liquid level or pH and liquid level.

ELAPSED TIME CONTROLLER

DEFERRED ACTION CONTROLLER

CYCLELOG CONTROLLER

PNEUMATIC LOADING SYSTEMS

• • •

Everything about this exhibit is arranged to give you a clear, concise picture of the big "news" in instrumentation including actual demonstrations. Get your facts first-hand. Be sure to visit FOXBORO Booth Nos. 412-413. The Foxboro Company 18 Neponset Ave., Foxboro, Mass., U. S. A.

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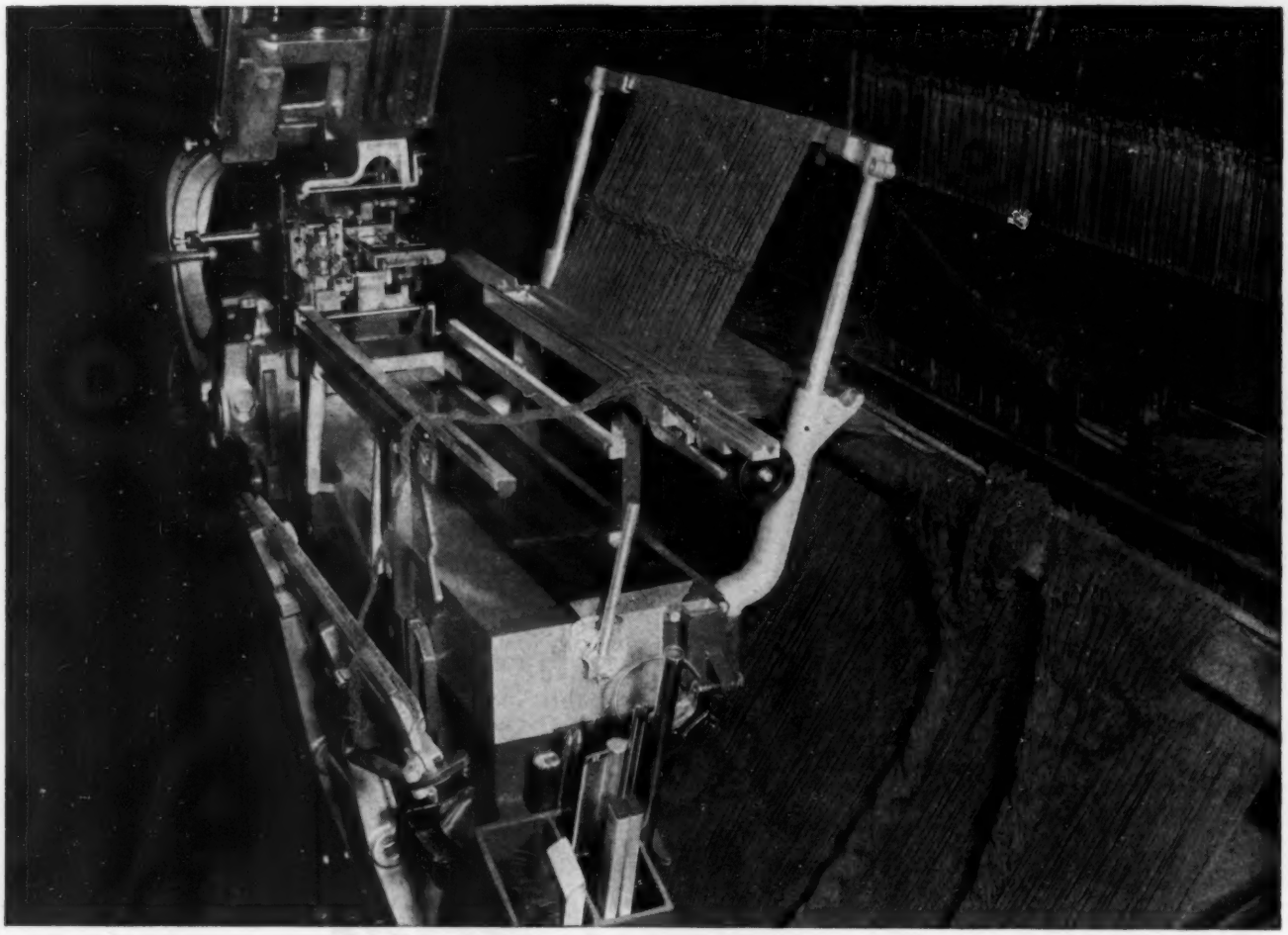
INSTRUMENTS



BARBER-COLMAN

PORTABLE WARP TYING MACHINE

MODEL LS

The above view shows the portable Warp Tying Machine in operation of tying-in a new wool warp at the loom. The ends on the left have been tied. The reed, harness and drop wires are left undisturbed, saving the labor and time required for removing and replacing the weaving elements, as well as re-gaiting of the loom. This machine is particularly adapted for tying-in wool, worsted, mohair and other difficult yarns. The Figure-8 knots securely hold all types of yarn. All warps are selected from an end and end lease resulting in perfectly straight warps.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • DRAWING-IN MACHINES

BARBER-COLMAN COMPANY

ROCKFORD • ILLINOIS • U. S. A.

FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U. S. A. MANCHESTER, ENGLAND

Which Machine Can You Anchor Without Floor Damage?

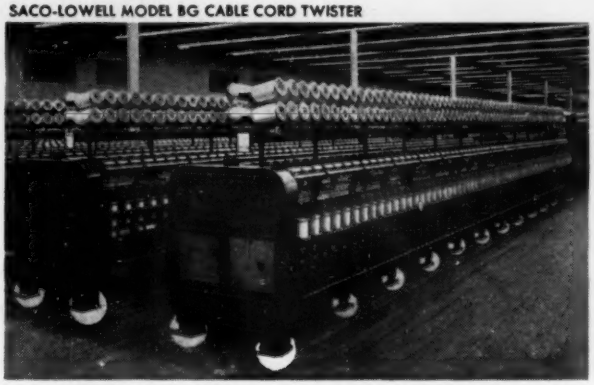
The Answer: **ALL OF THEM!**

When you mount them on UNISORB—as shown—all the machines you use can be anchored the modern way . . . No Bolts . . . No Lag Screws . . . No Destructive Floor Drilling.

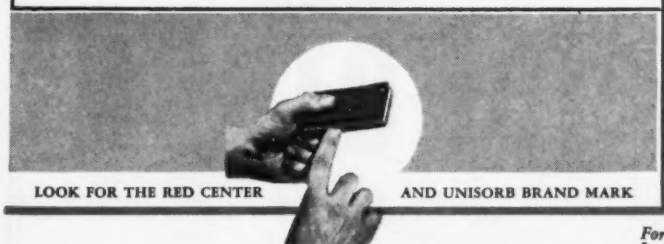
DRAPER E MODEL COTTON LOOM

TRAPS VIBRATION AND NOISE — By absorbing from 60% to 85% of transmitted machine noise and vibration, UNISORB guards floors, buildings and the machinery itself . . . helps to provide quieter surroundings for your workers, to their advantage and *yours.*

SACO-LOWELL MODEL BG CABLE CORD TWISTER

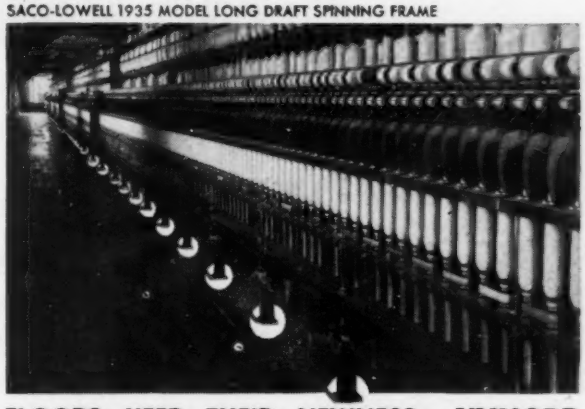


UNISORB IS READY-CUT FOR IMMEDIATE INSTALLATION — Send us the type of machine, how many to be UNISORB-Mounted, who made it, serial number, model number. We do the rest. Delivery is immediate, and your UNISORB pads are ready for installation on delivery.
Today, write for a UNISORB sample and full details.



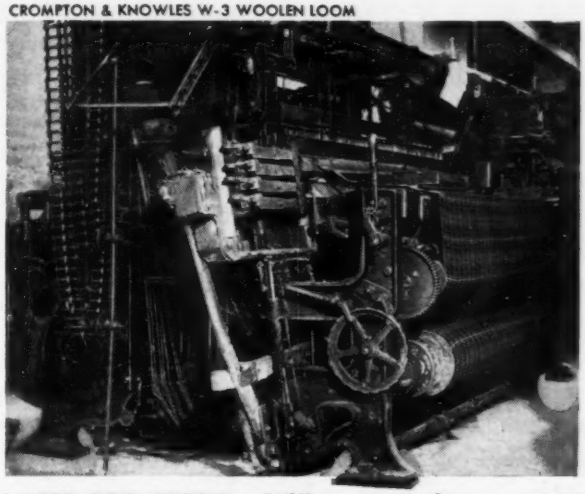
LOOK FOR THE RED CENTER AND UNISORB BRAND MARK

SACO-LOWELL 1935 MODEL LONG DRAFT SPINNING FRAME



FLOORS KEEP THEIR NEWNESS — UNISORB-Mounting works effectively with every type of flooring, and banishes the old-fashioned hole-drilling that goes with bolt-and-lag-screw anchoring. A special cement quickly, easily binds the UNISORB pads to the machine feet and the floor. Permanent set prevents creeping.

CROMPTON & KNOWLES W-3 WOOLEN LOOM



LASTS FOR YEARS — Mills, everywhere, report UNISORB-Mounting jobs 6, 7, 8 years old — and older — that have required no replacement or maintenance . . . and are still as secure and efficient as the day they were installed!

THE FELTERS COMPANY

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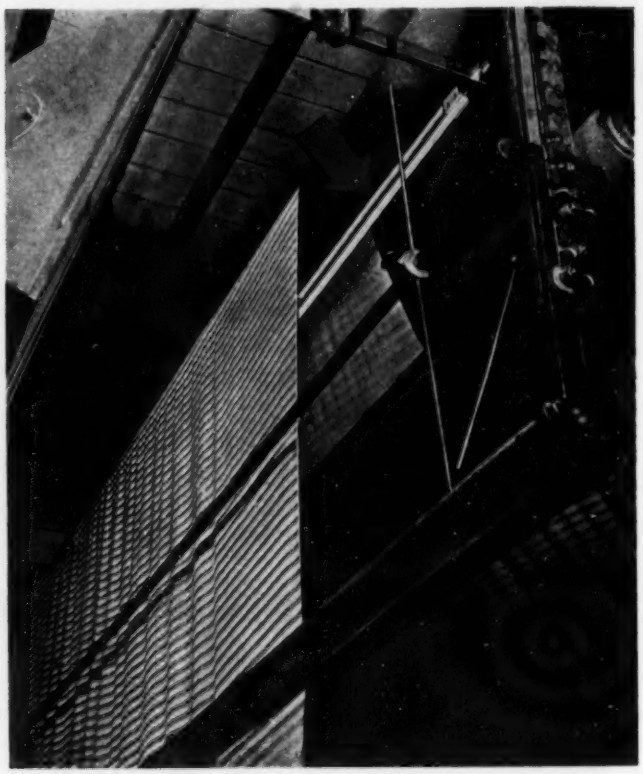
FOLDING FREED from STATIC-CAUSED TENSION for Van Raalte

IONOTRON STATIC ELIMINATOR® HELPS BOOST OUTPUT 5%

A 5% production increase is always worth-while! That's what the Van Raalte plant at Saratoga Springs has accomplished by eliminating static on their tentering machine.

Previously, static-loaded fabrics snagged on the folding tables, causing numerous rejects. Static also caused extreme tension in the knitted fabric coming from the tentering machine. Subsequent shrinkage of the static-stretched cloth, after being cut to pattern, caused further rejections. It was necessary to have two men tend the tentering machine to keep the fabric moving freely.

Then Van Raalte installed an Ionotron Static Eliminator on the machine. Results: Production up 5% . . . static-caused rejects eliminated . . . no more shocks to personnel . . . and the fabric discharges properly without manual attention. A. T. Guild, Plant Manager, credits the Ionotron with eliminating all of these troublesome and expensive difficulties.



Arrow shows the 144-inch Ionotron Static Eliminator installed on the tentering machine at Van Raalte

SEND COUPON FOR FREE BULLETIN!

The benefits of various other Ionotron installations are reported in a new U. S. Radium bulletin. We'll be glad to send you a copy. And for any special static problems, our engineers are available to work with you.

Dept. R3, United States Radium Corp.,
535 Pearl Street, New York 7, N. Y.
Please send my free copy of bulletin 8.4 "Ionotrons in Industry."
Name_____
Position_____
Address_____
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USRADIUM

IONOTRON Static ELIMINATOR

NEW HIGH-SPEED BLEACHING BOX FEATURES:

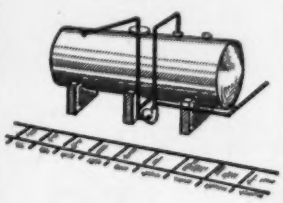
1. Higher bleaching speeds —limited only by washer capacity.

2. Improved piling mechanism—positive pulling draw reels remove cloth faster than previous designs.

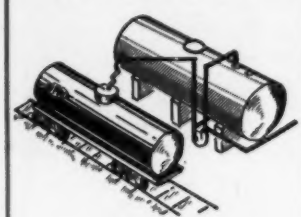
3. Increased capacity—more cloth can be handled without increase in the size of the equipment.

4. Reduction in floor space requirements—overall length of J-Box has been reduced by 25% or more.

FOR GREATEST ECONOMY, CONSIDER:



TANK STORAGE AT THE MILL



TANK CAR DELIVERIES

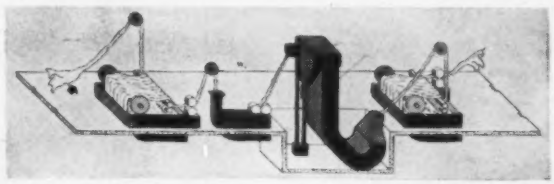
If you need 5000 lbs. or more of "Albone" 35 (35% Hydrogen Peroxide) per month, you'll find a storage tank installation to be economical.

SEND FOR THIS NEW BOOK!

It shows typical continuous bleach layouts designed to fit the requirements of various plants. For a copy just write: E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Department, Wilmington 98 Del.

CHOOSE ONE OF THESE 4 DU PONT CONTINUOUS PEROXIDE BLEACHING SYSTEMS

to bleach MORE goods FASTER, at low cost

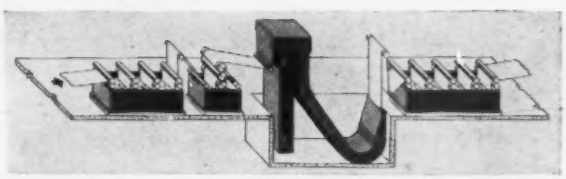


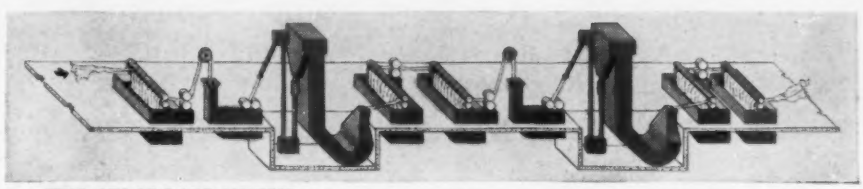
ONE-STAGE ROPE SYSTEM

An ideal arrangement for mills that require weekly production of 200-500 thousand yards of goods averaging 3 yards/pound or lighter.

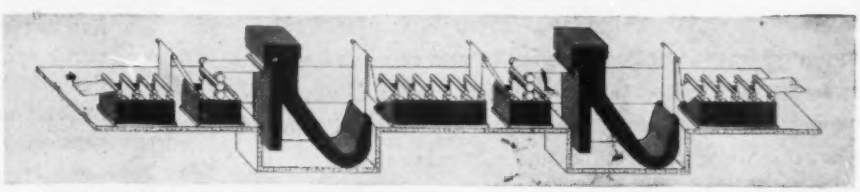
ONE-STAGE OPEN-WIDTH SYSTEM

For production requirements of 150-300 thousands yards/week of goods that cannot be rope-processed—especially successful with a wide range of heavy fabrics.





TWO-STAGE ROPE SYSTEM For processing a wide variety of fabrics; print cloths, sheetings, shirting, shade cloth, etc.: handles 1¼—1½ million yards/week of 4-yards goods.



TWO-STAGE OPEN-WIDTH SYSTEM For cloth that cannot be handled in rope form. Operating speed generally between 75 and 125 yards/minute. Any degree of bleaching obtained by adjusting peroxide strength.

• • •

TO PRODUCE quality bleaching at lower over-all cost, look into these *Du Pont* systems. They're readily adaptable to speedy, uniform processing. In use in many leading mills, Du Pont Continuous Peroxide Bleaching systems are easy to set up, operate and control . . . and they're backed by the years of experience and "know how" of Du Pont Technical Service.

Send for Du Pont's booklet that shows typical continuous bleaching layouts designed to fit the requirements of various plants. For your copy, write:

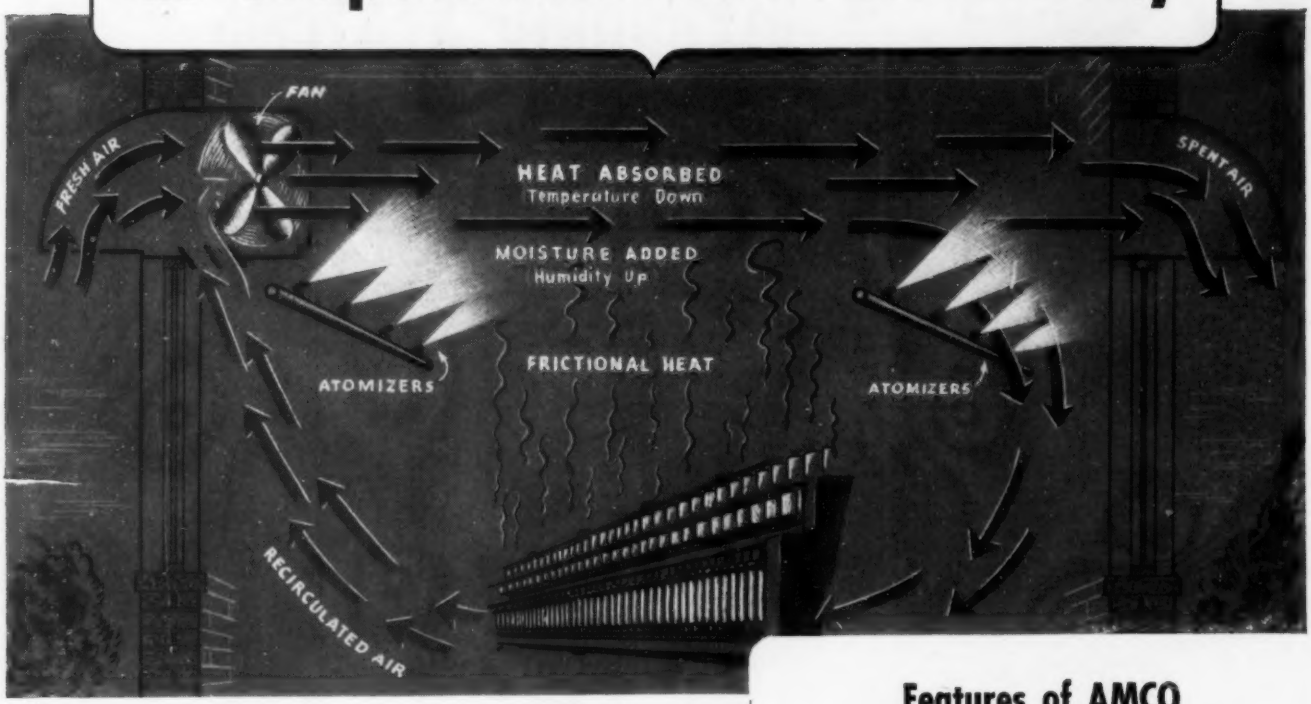
E. I. du Pont de Nemours & Co. (Inc.)
Electrochemicals Department
Wilmington 98, Delaware

DU PONT CONTINUOUS PEROXIDE BLEACHING

DU PONT

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

Nothing cools so simply as evaporation...the AMCO way



• With completely automatic AMCO Evaporative Cooling system a controlled amount of fresh air is drawn into the mill from outside and combined with some re-circulated air. Spray from atomizers introduces moisture and relative humidity is raised to the desired point. Frictional heat is absorbed by evaporation of moisture thus reducing excessive room temperature. Spent air is exhausted automatically through controlled vents.

Simple, flexible, economical—AMCO treats each room as a separate unit. No expensive changes are necessary . . . no air ducts to install . . . no jump in maintenance costs. What AMCO humidification and cooling has done for many well-known, progressive textile mills, it can do for you. Let an AMCO engineer show you the way to better product quality and increased output.

AMCO

HUMIDIFICATION and COOLING

AMERICAN MOISTENING CO. AFFILIATED WITH GRINNELL COMPANY, INC.

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Features of AMCO Humidification and Cooling

Reduces excessive temperature and holds relative humidity at point best suited to fibre and process.

Permits faster machine speeds in high friction (heat) areas.

Assures evener yarn counts and increases breaking strength.

Gradually increases regain for good roving and consequent better spinning.

Drafting of fibres smoother and more compact.

Waste and fly greatly reduced.

Increases worker comfort.

Easier to install—minimum disruption.

Amco Evaporative Cooling utilizes your present humidification system.

High flexibility to meet changing room conditions.

No cumbersome ducts to require cleaning.

Minimum maintenance.

Color Lends Warmth to Beauty

For Winter Sportswear
as Colorful as Confetti
Specify

National Aniline Dyes

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SCI
STANDARD Durene *
smooth–strong–uniform
wins you speedier quality production . . .
and more repeat counter calls
You can keep your machines at top production for longer stretches without loss of quality when you run STANDARD Durene.* Its smoothness, strength and uniformity knit more attractive, more comfortable, longer wearing garments . . . the kind that wins reorders everywhere.
STANDARD Durene* is a superior mercerized combed cotton yarn made in our own mills with every step of its processing under our rigid controls. These controls, the products of over seventy years' experience in cotton yarn manufacturing and our continuing modern research program, keep STANDARD Durene* at peak quality performance.
Increase your quality production, as other leading knitters do, with STANDARD Durene.* Specify it on your next job.
*REG. U.S. PAT. OFF.
Made of Durene multi-ply mercerized combed cotton yarn
4 WAYS BETTER than ordinary cotton yarns
EXTRA COMFORT ---more absorbent
EXTRA STRENGTH ---longer wear
EXTRA QUALITY ---lasting lustre
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DOUBLE-HEAD INTERSECTING

QUAD DELIVERY Pin Drafter

TRADE MARK

THE first Pin Drafter recently introduced by Warner & Swasey was the Dual Delivery machine. It brought to the textile industry a major improvement. On straight wools, wool and synthetic and synthetic cut staples, it is showing big savings, while delivering better quality sliver.

Now a Quad Delivery Pin Drafter is being made available. With equivalent entering weight per delivery, the Quad doubles the production of the Dual Delivery Machine. Entering weight of sliver is approximately 400 grains per yard per delivery. Taking can sliver, Bradford or French comb, it offers remarkable savings by increasing production, reducing doublings and delivering sliver that is more uniform and stronger.

We urge you to investigate the Warner & Swasey Pin Drafter, both Dual and Quad Delivery models. Arrangement can be made for demonstration on your stock. These Warner & Swasey Pin Drafters are precision machines, compactly designed to conserve floor space and can fit into your production lines without major changes.

For Descriptive Booklet, Mail This Coupon Today

WARNER & SWASEY
Cleveland
TEXTILE MACHINERY DIVISION

The Warner & Swasey Company
Textile Machinery Division, 5701 Carnegie Avenue
Cleveland 3, Ohio

Yes, I would appreciate additional information about the Warner & Swasey Quad Delivery Pin Drafter.

Name ..... *Title* .....

Company .....

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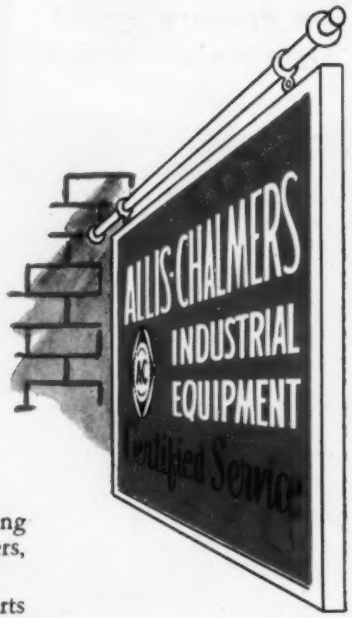
You can do it better, faster, for less . . . with a Warner & Swasey

"Certified" Service

AN ADDED REASON FOR INVESTING IN ALLIS-CHALMERS MOTORS!



IT MEANS: 1) *Better, Faster Service.* Independent local repair shops are now being selected and authorized to service and repair Allis-Chalmers Motors, Transformers, Controls, Pumps — and "Certify" them as to workmanship.

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How can you get this service? For the present most "Certified" Service Shops are located in the larger U. S. industrial areas . . . but they're expanding rapidly. Call your nearby A-C District Office or Authorized Dealer for closest recommended shop. ALLIS-CHALMERS, MILWAUKEE 1, WIS.

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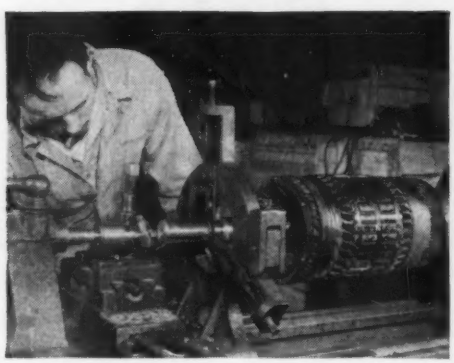
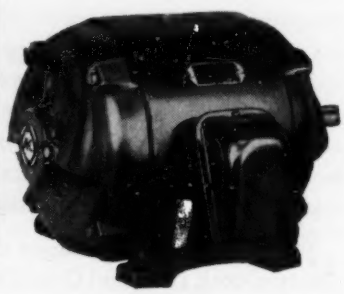


The A-C Supply Company of Cuyahoga Falls, Authorized Allis-Chalmers Dealer and newly-appointed "Certified" Service Shop, is staffed and equipped to give prompt, efficient, top-quality repair and service aid to customers in the greater Akron industrial area. Typical of the kind of "Certified" Service organizations being selected throughout U.S.

MANY SIZES, RATINGS OF ALLIS-CHALMERS STANDARD SQUIRREL-CAGE MOTORS ARE NOW AVAILABLE FROM STOCK. CHECK YOUR AUTHORIZED A-C DEALER, OR DISTRICT OFFICE FOR DETAILS.



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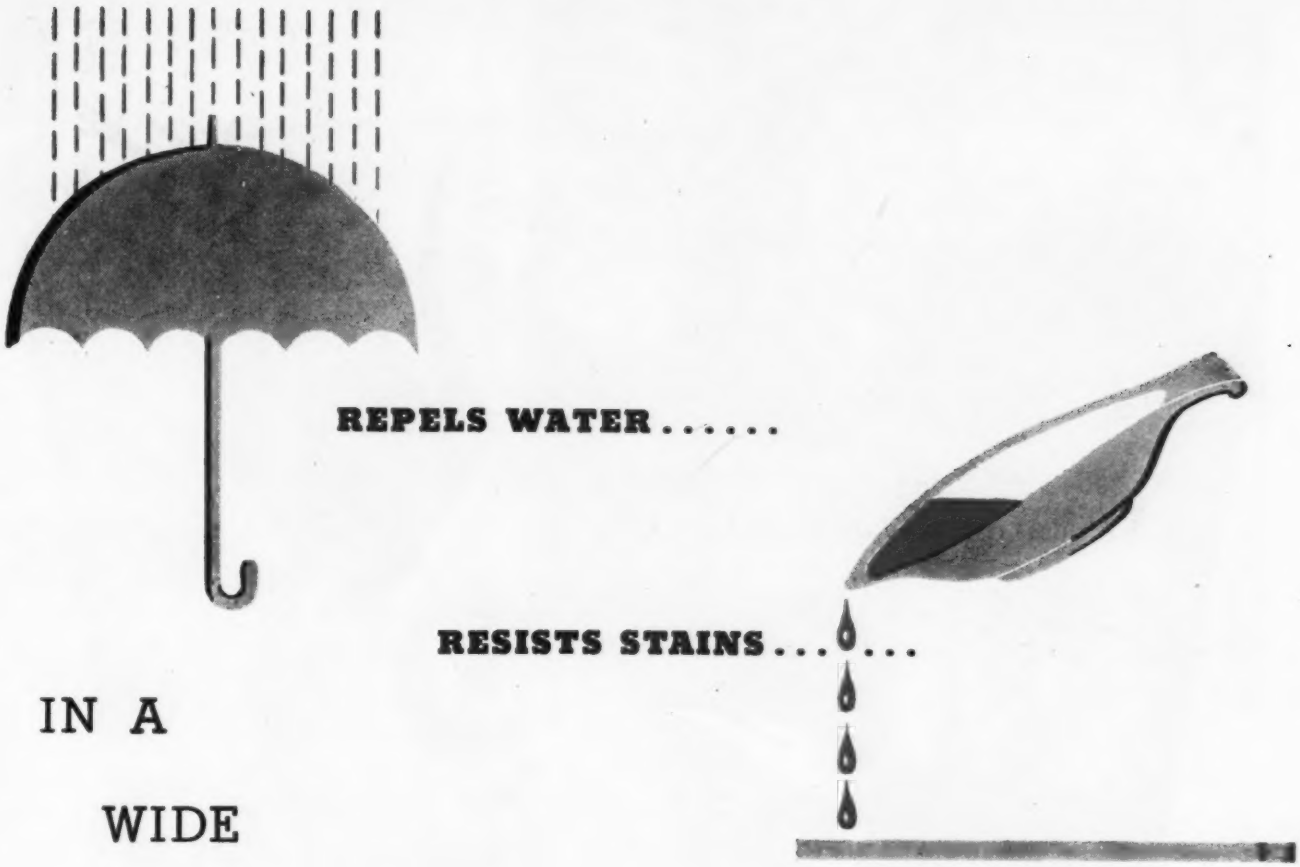
ALLIS-CHALMERS

One of the Big 3 in Electric Power Equipment—Biggest of All in Range of Industrial Products



IN A WIDE VARIETY OF TEXTILES...

PARAMUL 115

WATER REPELLENT

PARAMUL* 115 Water Repellent, – another important development of Cyanamid Research for the textile industry – has a double purpose in life: to provide a better water repellency and a superior resistance to water borne stain. And how *well* it does *both* is proved many times a day in a wide variety of fabrics – cottons, rayons, linens and woolens – for outerwear and equipment purposes.

An aqueous solution of wax and aluminum salts, PARAMUL 115 Water Repellent saves time and money in application, is easy to use, odorless and harmless to skin and fabric. It provides complete stability over a wide range of temperatures and can be safely stored for a long time.

Take advantage of Cyanamid's expert technical staff to achieve the best results *possible* in renewable water repellency and renewable stain resistance.

AMONG CYANAMID PRODUCTS FOR THE TEXTILE INDUSTRY ARE:

AQUASOL* Sulfonated Castor Oils; NO-ODOROL* Finishing Oils; DECERESOL* Wetting Agents; PARAMUL* 115 Water Repellent; Penetrants, Softeners, Finishes, Sizing Compounds, and other specialties and Heavy Chemicals. For low-cost chemical equivalent of distilled H_2O . . . FILT-R-STIL* Demineralizing Units.

*Reg. U. S. Pat. Off.

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BEHIND MR. CELLOPHANE are years of packaging experience. This store of knowledge is at your disposal to help you make best use of the unique visual and protective advantages of Sylvania Cellophane. Talk over your problems with us. You'll find us most cooperative.

Wash cloth, bath and hand towels in U-board with extended flaps machine-wrapped in cellophane adds up to an inexpensive, sanitary package that means more sales.

SYLVANIA CELLOPHANE

SYLVANIA DIVISION AMERICAN VISCOSE CORPORATION

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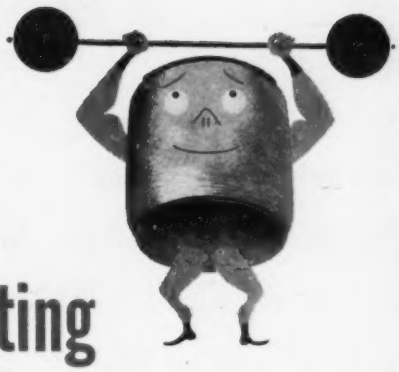
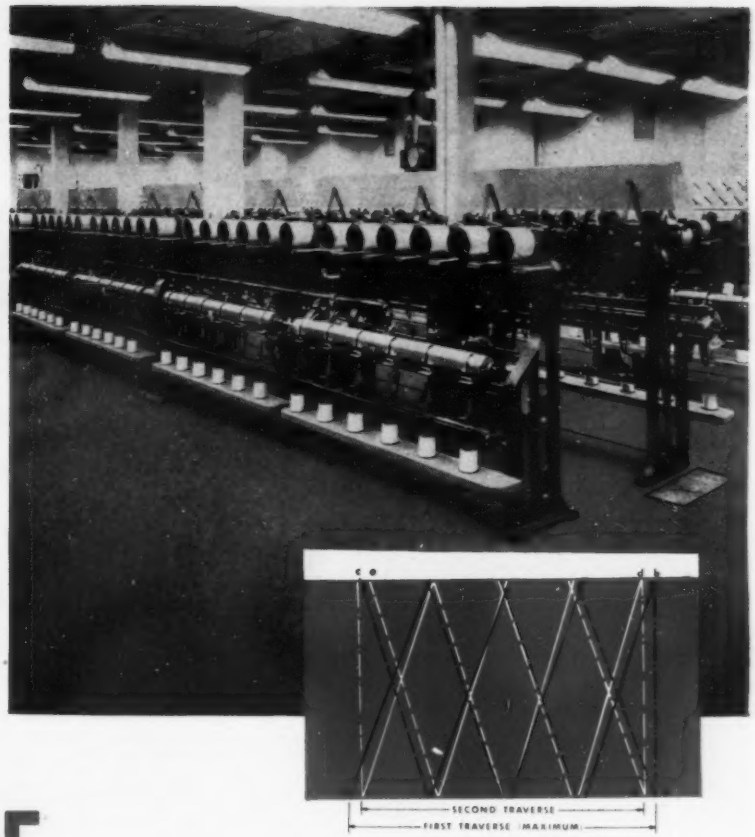




Getting NYLON INTO SHAPE

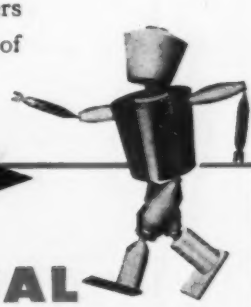
FOR MORE SUCCESSFUL CONING

Nylon yarn sized on the No. 250B Universal Sizing Machine takes a shape that is perfect for free delivery on the No. 50 Universal Coning Machine.

A special traversing arrangement causes the yarn to be laid on the tube in alternately longer and shorter layers, resulting in tapered selvedges. Yarn delivers more freely from this shape of tube.

Another advantage of the unique shape of the Universal Sizing Tube is that due to the ever-changing traverse, the wind is more "open", providing better air circulation and faster, more thorough drying.

A high percentage of repeat orders from throwsters indicates the success of the Universal system.



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UNIVERSAL WINDING COMPANY

Providence, Boston, Philadelphia, Utica, Charlotte, Atlanta, Chicago, Los Angeles; Montreal, Hamilton, Canada; Manchester, England; Paris, France; Basle, Switzerland. *Agents in every principal textile center throughout the world.*

UNIVERSAL NYLON SIZING AND CONING

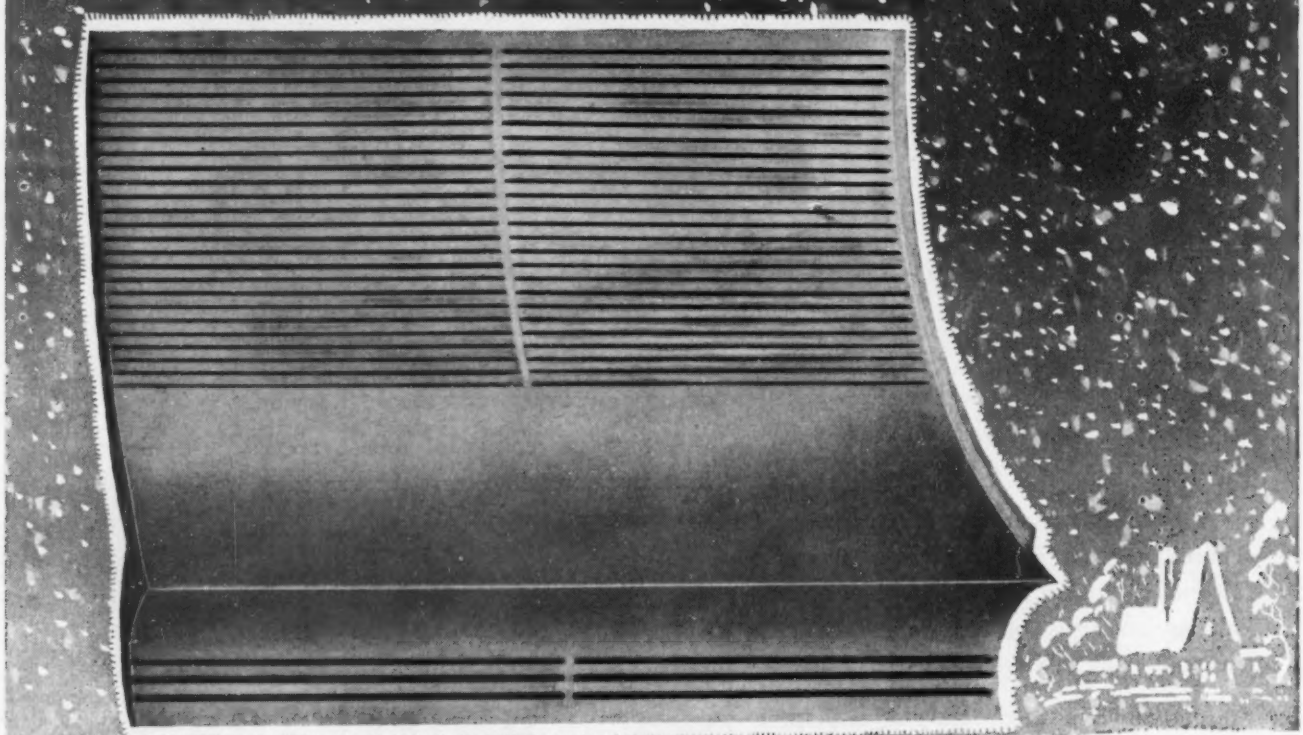
used by more throwsters than any other method.

Universal, with its Atwood Division, builds a complete line of throwing machinery.

is white waste snowing UNDER YOUR CARDS?

White waste under your cards is yarn that never reaches the market. To eliminate excessive waste, check your screens regularly and replace those which are worn or damaged with new or rebuilt ones from Jenkins.

Whether you use slat or perforated screens, Jenkins quality workmanship assures perfect "setting". Now settled in its modern new plant, Jenkins is ready to give you prompt service on all orders.

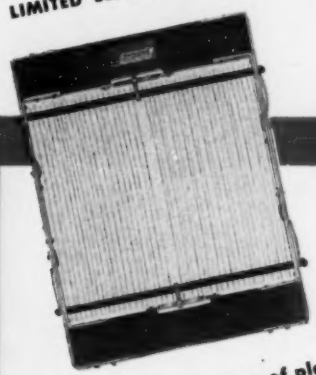


JENKINS METAL SHOPS *Incorporated*

GASTONIA, NORTH CAROLINA

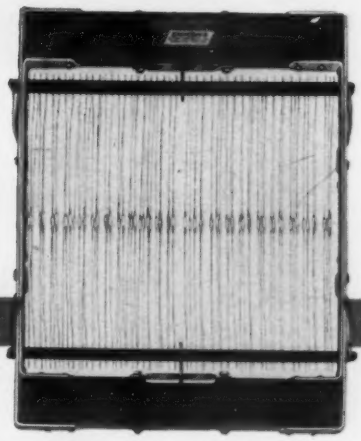
"HERE ARE 3 TYPES OF EMMONS HEDDLE FRAMES!"

EMMONS SINGLE BAR LIMITED SLIDE FRAME



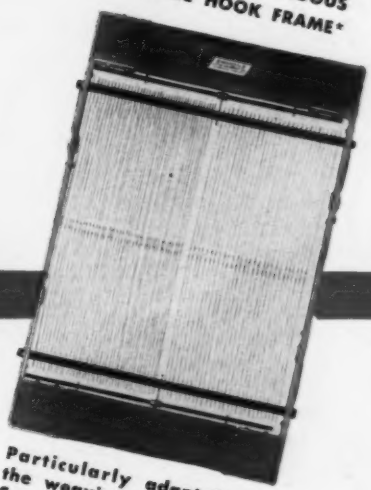
For almost any type of plain or Dobby goods weaving.

EMMONS DOUBLE BAR LIMITED SLIDE FRAME



Extremely suitable for weaves where a double bar harness is required such as Light Duck, Narrow Sheeting, etc.

EMMONS #E-11 CONTINUOUS SLIDE HOOK FRAME*



Particularly adaptable to the weaving of rayon and fine worsteds.

"NATIONALLY I'M AT YOUR SERVICE IN"—

LAWRENCE, MASS.	Main Office and Plant EMMONS LOOM HARNESS CO. P. O. Box 927 'Phone — 6194
CHARLOTTE	Branch Plant GEORGE FIELD, Manager P. O. Box 2036 'Phone — 3-7503
GREENVILLE	P. W. COLEMAN P. O. Box 1393 'Phone — 2-3327
ATLANTA	ARTHUR HARRIS P. O. Box 1982 'Phone—Main 2643
DALLAS	R. D. HUGHES SALES CO. 1812 Main Street 'Phone — C-6283; C-6284
NEW YORK	W. S. TAYLOR 52 Vanderbilt Avenue 'Phone — Lexington 2-6060
CHICAGO	ALBERT R BREEN 80 E. Jackson Boulevard Phone — Harrison 7140

*Patent Applied For

"I'M ON ALL THESE EMMONS PRODUCTS!"

STEEL HEDDLES
(Nickel, cadmium, stainless)

HEDDLE FRAMES

REEDS
(Pitchband & All-Metal; Also Available in Stainless Steel)

SELVAGE HARNESS

SLASHER AND STRIKING COMBS

EMMONS LOOM STRAPPING
(Manufactured by B. F. Goodrich Co.)

RUN-RITE PLASTIC SHEAVES AND TAPE TENSION IDLERS
(Manufactured by National Plastics, Inc.)

EMMONS WEAVE ROOM EQUIPMENT

KEY TO MORE *Unit Responsibility*

Here's proof of the value of unit responsibility! This modern weave room produces the highest quality product . . . most efficiently. Westinghouse planned engineering provides individual drives and controls, uniform illumination, and Precipitron, the electronic air cleaner that provides clean, pure air.

"FROM OPENING TO FINISHING... ELECTRICAL AND POWER EQUIPMENT DESIGNED FOR EACH JOB"

The economical application of Westinghouse apparatus and electric power to textile mills has given the industry a new conception of speed, economy . . . *and* an improved product.

Whether it's a single motor drive, a complete power system, an individual lamp, or an entire lighting program . . . you need only contact one organization for your complete electrical requirements. From the start, Westinghouse has maintained a complete, separate Textile Department, staffed by competent engineers. These men are on the job full time producing better power equipment, and more efficient methods of applying, distributing, controlling and utilizing electric power for textile mills.

All this knowledge is yours for the asking . . . at Westinghouse. You'll get a speedy, accurate and simple solution to your textile problem.

Call your nearest Westinghouse office or write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa.

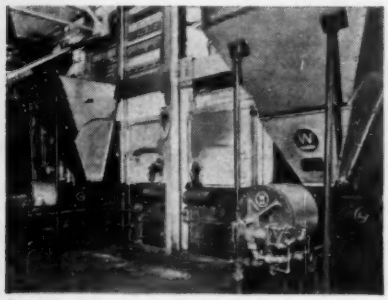
PRODUCTIVE POWER

"WESTINGHOUSE-EQUIPPED THROUGHOUT" MEANS SIMPLIFIED ORDERING, QUICKER INSTALLATION, MORE EFFICIENT OPERATION

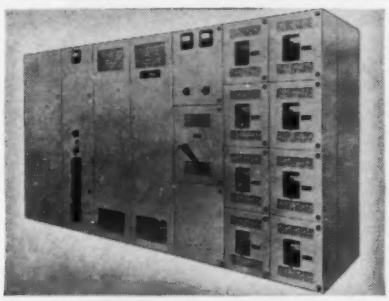
Putting power to work *productively* can be a major problem—or a simple one. When items must be selected, ordered and received from many sources, it means many chances for costly errors and delays . . . divided responsibility—or none at all—for performance of installed equipment.

Westinghouse offers the way to simplify the job. From equipment for generation of electrical or steam power, to the most specialized types of drives and control for its utilization, Westinghouse provides a single source of supply . . . one broad pair of shoulders competent to take responsibility for performance of all parts of the job.

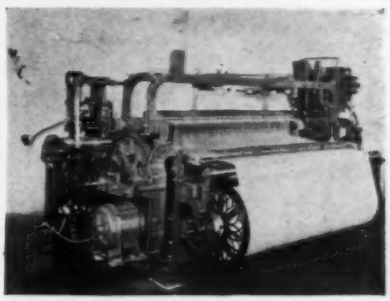
Here are a few of the places where Westinghouse unit responsibility prevents headaches . . . saves money . . . assures *more productive* power:



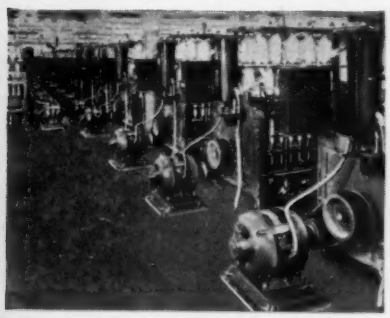
STOKERS—Ability to burn cheaper grades of fuel, and to eliminate smoke nuisance are two outstanding advantages of Westinghouse "Link-Grate" Stokers. These stokers fire the boilers supplying power and process steam in a New York textile mill.



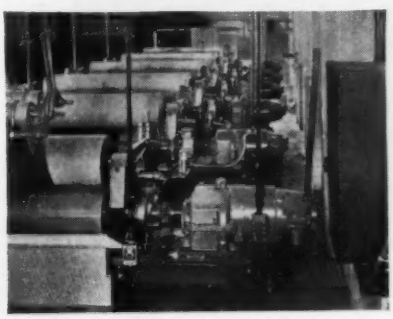
SWITCHGEAR—Westinghouse supplies a wide range of "Unitized" metal-clad switchgear that permits quick, economical installation. Unit shown contains a 750-kva air-cooled transformer, high-voltage metal-clad air breaker, and draw-out, low-voltage air circuit breakers.



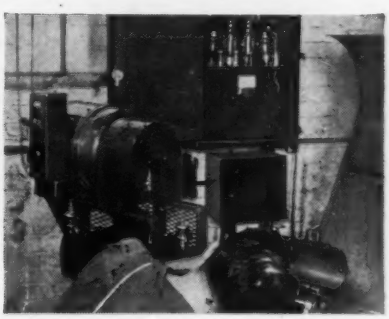
LOOM MOTORS—Westinghouse Loom Motors give maximum production with a minimum of power. Shown is a "weave room tested", specially-designed Westinghouse 1-1/2 hp loom motor driving a modern woolen and worsted loom.



LINT-FREE MOTORS—Installation of spinning frames, driven individually by Westinghouse Lint-Free Motors and controls. They're specially designed to provide the "cleanest running textile motor available".



GEARMOTORS—Westinghouse Gearmotors greatly facilitate the application of power for machines with slow-speed input shafts. Illustrated is a range drive, powered by Westinghouse Gearmotors.



MOT-O-TROL—This flexible electronic control solves any control problem requiring wide-range stepless speeds and close automatic regulation at all speeds and varying loads.

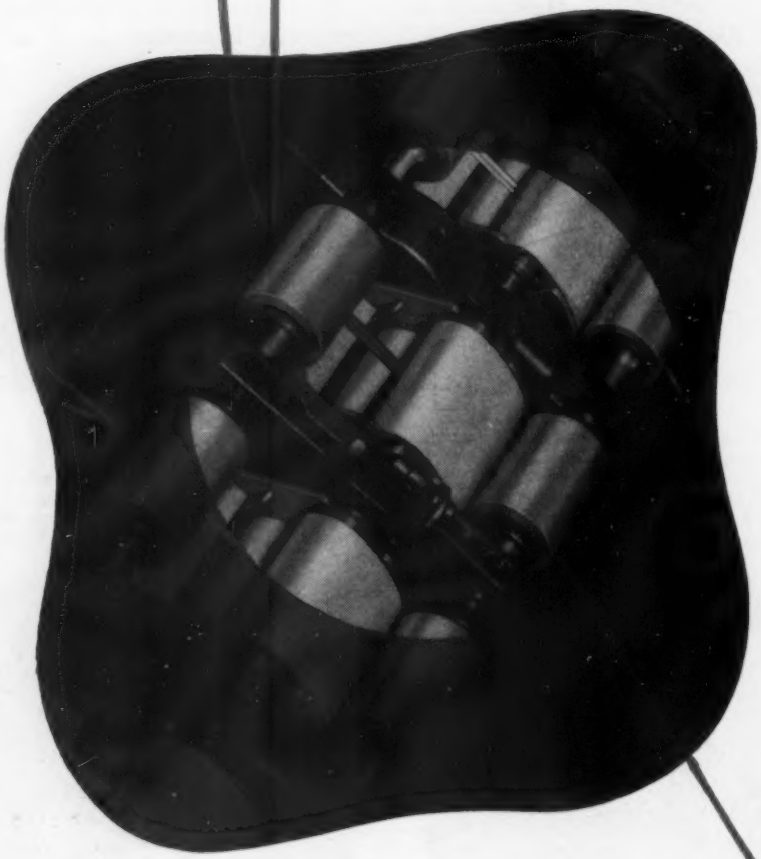
LIGHTING—Modern fluorescent lighting provides maximum "see-ability" in this textile mill. Westinghouse "planned lighting" is added proof of the value of single-source responsibility.

Westinghouse

PLANTS IN 25 CITIES . . . OFFICES EVERYWHERE

MORE PRODUCTIVE POWER FOR INDUSTRY

"We are now getting 10% more uniform yarn since installing *Dayco Aprons*"



. . . another reason leading mill men insist on Dayco Aprons

Every day more and more mill men realize that frame for frame, it's the DAYCO Aprons that consistently deliver the most uniform yarn. That's why overseers everywhere are insisting that *every frame* in their spinning rooms be 100 per cent DAYCO equipped. Nondirectional DAYCOS can be put on either way. Their nonstretch feature keeps them on the frames . . . when you start up with DAYCOS, *they stay on!* And, in addition, their specially engineered, white satin finished drafting surface eliminates marking of the yarn . . . keeps surface free of dirt and eliminates gathering of lint. This means less cleaning, less clearer waste.

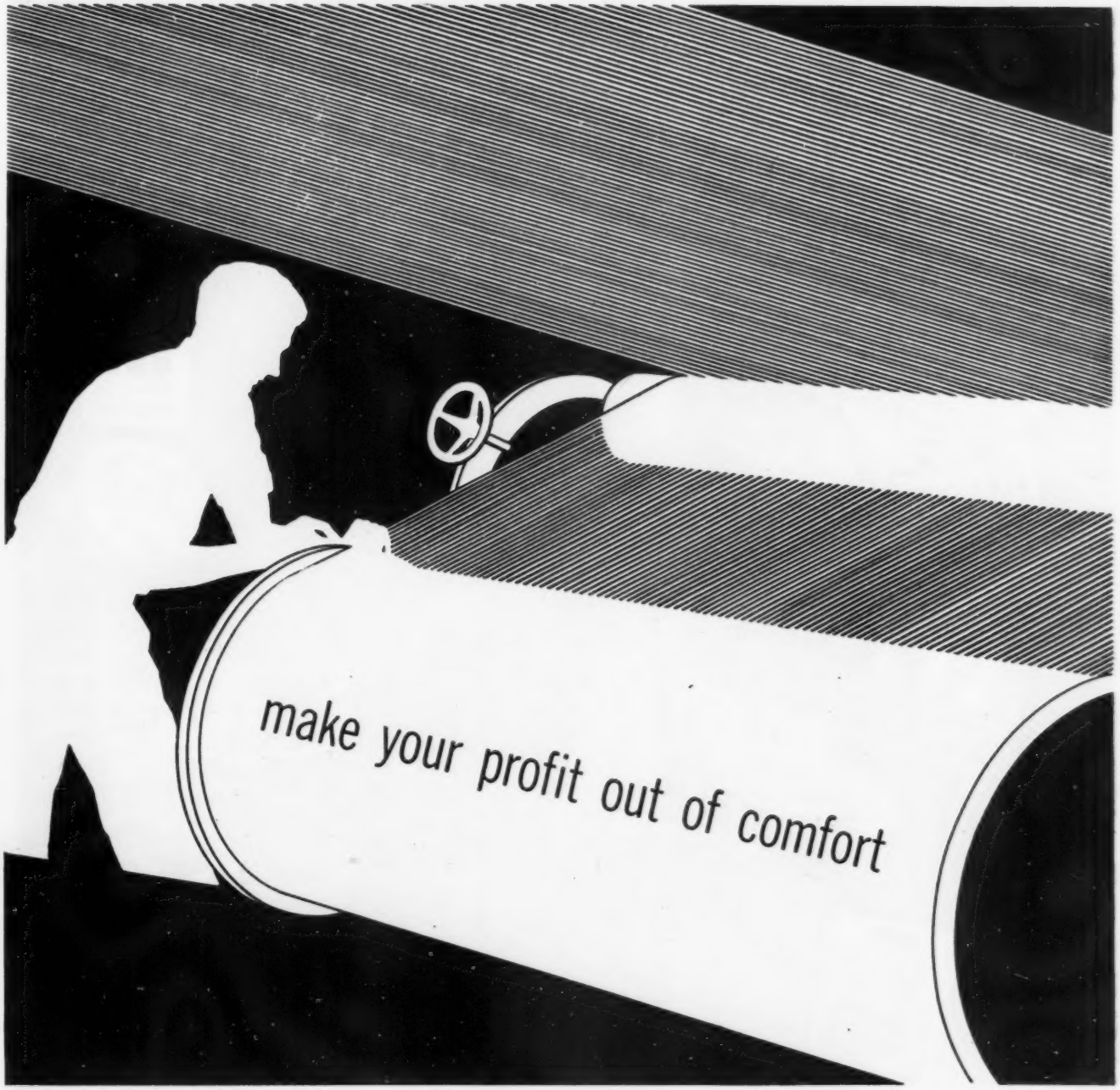
If you aren't running DAYCOS now, it will pay to have one of our textile machine engineers call on you. Just drop a card to *The Dayton Rubber Company, Textile Division, Main Sales Office, Woodside Building, Greenville, S. C.*

Advantages of Running DAYCOS on Your Frames

- Greater coefficient of friction
- No inside rib
- Nondirectional
- Will handle cotton and synthetics
- Uniformly flexible from apron to apron
- Won't pick up lint
- Won't curl
- Unaffected by hard ends

Dayton Rubber

THE MARK OF TECHNICAL EXCELLENCE IN NATURAL AND SYNTHETIC RUBBER



Comfort pays in many ways. When you provide "comfortable" conditions for materials, you better your product, speed your production. When you provide "comfortable" conditions for machines, they run smoother, require less adjustment.

In the same way, when you provide "comfortable" conditions for employees, they do more and better work with the same effort. Fatigue and mistakes are kept at a minimum.

Textile mills air conditioned by Carrier attract a better grade of employees, men and women who stick to the job. You train fewer employees, dismiss fewer. When the mill is cool in hot weather, employees stay home less, spend more time at their machines.

Air conditioning makes it easier and less expensive to maintain clean, comfortable working conditions. Windows are kept closed, and dust, dirt and lint are constantly removed from the air.

The design and installation of efficient air conditioning in the textile field require knowledge gained only through long experience. Carrier engineers have been in the work long enough to know the field and its problems intimately. That's why Carrier is your best investment. Carrier Corporation, Syracuse, New York.

Carrier AIR CONDITIONING • REFRIGERATION • INDUSTRIAL HEATING

These Famous Names Weave their Luxurious Floor-Coverings on C&K Looms

In the pages of national consumer magazines, these honored trademarks sign the pledges of quality regularly published by these famous mills. And back of each of these stands another *invisible trademark* which tells a basic quality story: "Woven on C&K Looms." For all these fine rugs and carpetings are products of the amazing Axminster and other carpet looms built here in the Loom Works. Woven in fabulous constructions, and in prodigious widths, under the eyes of *modern* master weavers . . . the daily accomplishment of C&K Looms stands with the work of the *oldest* masters. But be it carpets, Glen plaids, gay ginghams . . . or whatever may be in *your* mind to produce . . . remember that "There's a C&K Loom for EVERY Woven Fabric." And this C&K Loom will weave your fabric in a quality, at a price, that will delight the eyes both of designers and of merchandisers.

Crompton & Knowles Loom Works

WORCESTER 1, MASSACHUSETTS, U. S. A.

PHILADELPHIA, PA. • CHARLOTTE, N. C. • ALLENTOWN, PA.
CROMPTON & KNOWLES JACQUARD & SUPPLY CO., PAWTUCKET, R. I.

C&K — A Loom for Every Woven Fabric

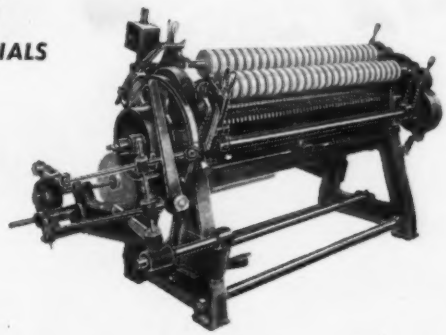
This "Invisible Trademark" Stands Back of the Famous Trademarks Shown above

Camachines

...for men with ideas

With more than twenty different models for the textile industries to choose from, Camachines offer a practical answer to every slitting and roll-winding problem. Illustrated below are four typical Camachines for men with ideas about increased production, improved quality and lower costs . . .

TACKY MATERIALS

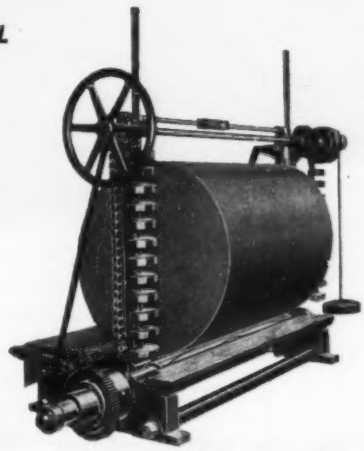


CAMACHINE 26-3A is especially designed for handling tacky or unevenly coated materials, such as adhesive tapes. Machine widths 26" to 56". Accommodates a 32" diameter mill roll. Rewinds rolls as narrow as ½", or up to 17¼" in diameter. Operates at speeds up to 400 fpm.

BIAS BINDING

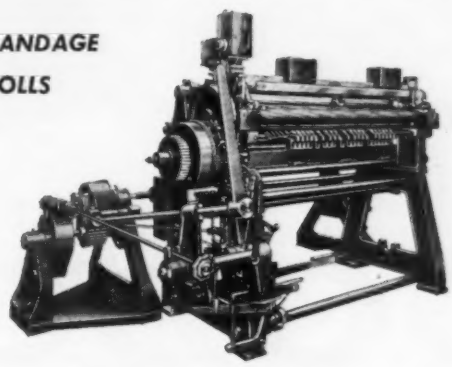
CAMACHINE 40-3L is the ideal machine for converting straight and bias binding fabrics (also specialty fabric) into strip in rolls. Machine widths 26" to 56". Accommodates material from roll, piece or fold. Rewinds rolls as narrow as ½", or up to 22" diameter. Speed up to 150 fpm from fold; higher from roll.

LOW MODEL WINDER



CAMACHINE 44-W low model winder operates in conjunction with processing machines as in bleacheries, fabric printing plants and bag factories. Available in machine widths from 32" to 82". Produces firm, uniformly rewound rolls up to 36" in diameter at speeds up to 1000 fpm.

BANDAGE ROLLS



CAMACHINE 40-4B, a semi-automatic machine for fast production of gauze bandage rolls. Machine widths 42" to 50". Accommodates 24" diameter mill roll. Rewinds rolls as narrow as ½", or up to 12" diameter. Machines come equipped with automatic stop for producing rolls of predetermined length.

Cameron Machine Company, 61 Poplar St., Brooklyn 2, N. Y.

WRITE FOR LITERATURE

AA—188

Camachines

FOR FAST, TOP QUALITY ROLL PRODUCTION

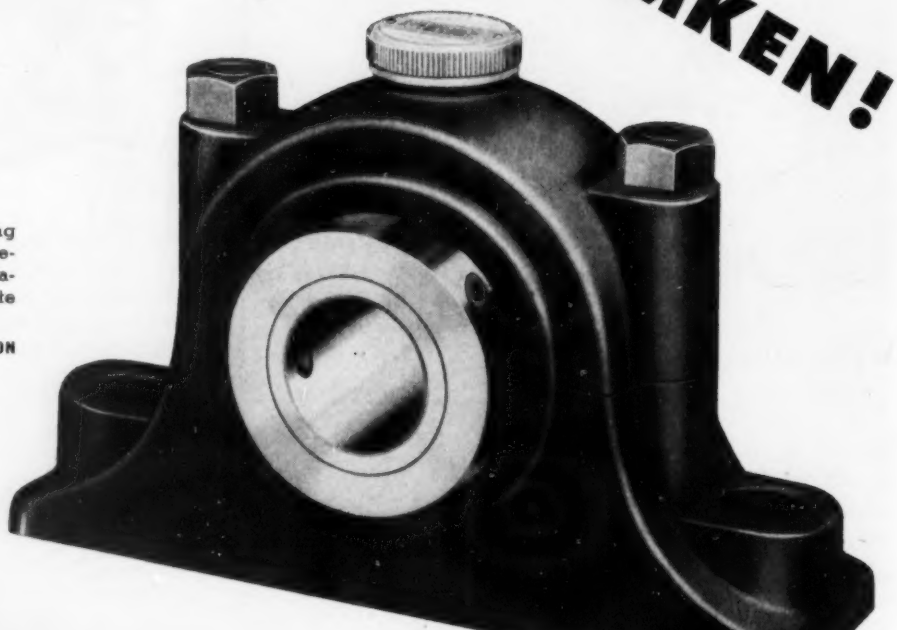
...the world over

TWO GREAT NAMES...DODGE-TIMKEN!

It was Dodge who took the famous Timken Bearing, mounted it, sealed it, housed it and delivered a pillow block of new high quality—fully assembled, ready to lock on the shaft and carry the power loads of industry with new efficiency.

Dodge develops *outstanding* power transmission products, as proved by the big success of Dodge-Timken Bearings on millions of industry's toughest jobs.

Dodge-Timken Bearings are supplied promptly from stock in four basic types and a wide range of sizes to meet an almost limitless variety of anti-friction problems.



Dodge also produces Ball Bearing Pillow Blocks which, with Dodge-Timken Bearings, comprise the famous "30,000 hour line." Write for complete bulletins.

DODGE MANUFACTURING CORPORATION
Mishawaka, Indiana

DODGE

of Mishawaka, Ind.

CALL THE TRANSMISSIONEER

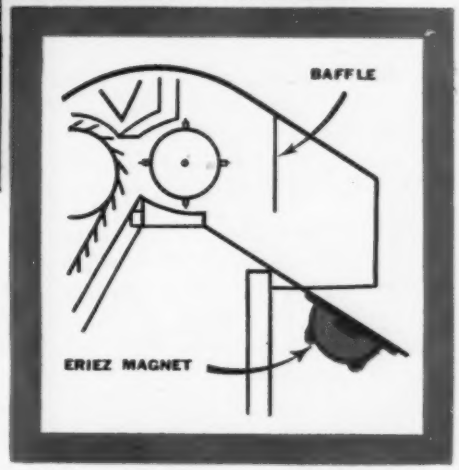
He is your local Dodge Distributor—factory trained—qualified to suggest ways to improve your machine performance, increase production. Look for his name under "Power Transmission Equipment" in your classified phone book.

Copyright, 1948, Dodge Mfg. Corp.

NAME PLATES

FOR YOUR NAME PLATE REQUIREMENTS, WRITE OUR SUBSIDIARY, ETCHING COMPANY OF AMERICA, 1520 MONTANA STREET, CHICAGO 14, ILLINOIS

How the Felters Company put Eriez Magnets to Work



This cross sectional drawing shows the position of the Eriez Magnet at the discharge end of the feeder. Note the optional baffle which can be used if the normal flow of material is not across the magnet face.

TYPICAL of Eriez leadership in magnetic protection is this installation at the Felters Company, Johnson City, New York, which reduces fire and machinery damage caused by tramp iron. Mounted on the discharge end of a feeder, this installation is ideal when the spiked apron on the feeder is made of metal. The compact Eriez Non-Electric Permanent Textile Magnet shown above was built to exact specifications in order to fit existing machinery. This flexibility in design, plus compact construction, permits Eriez Magnets to be installed in those locations where maximum magnetic protection is needed. Eriez Non-Electric Permanent Magnets are an economical investment because first cost is last cost. They require no current or other electrical accessories . . . operating and maintenance costs are virtually eliminated. Submit your tramp iron removal problems to Eriez. We will be glad to help in their solution.

TI-10

Please send bulletin No. 104A and the following:
Data on Eriez Magnets for:
☐ Wool ☐ Cotton ☐ Worsted ☐ Other processing lines
Eriez data on: ☐ Gravity Conveyor ☐ Mechanical Conveyor
☐ Pneumatic Conveyor ☐ Equipment on Processing Machines
Name.....
Address.....City.....State.....

For Complete Textile Magnetic Protection . . . See Eriez First

ERIEZ MANUFACTURING COMPANY

1501 E. 12th St., Erie, Pa.

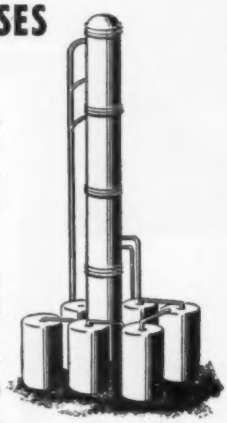
Announcing

SWIFT'S FATS and FATTY ACIDS

for technical uses

Swift & Company is now inviting inquiries on its new lines of fatty acids and fractionated glycerides. Extensive use of solvent processes will make possible new high standards of purity and stability.

1 THE PROCESSES



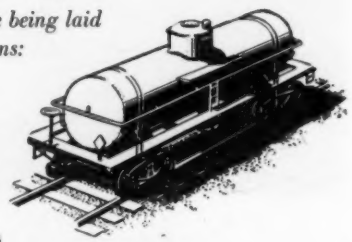
Solvent processes yield fat fractions of higher quality and wider usefulness. Most of Swift's new fats and fatty acids will be processed with solvents.

Unsaturated acids and drying oils will be separated by the Solexol process, using propane as a solvent. Fractions are separated selectively at temperatures not exceeding 200 degrees F. Since thermal and chemical side reactions are thereby avoided, products of greater purity and stability are obtained.

Saturated acids will be fractionated by solvent crystallization. Here, too, processing temperatures are low and harsh catalysts are absent, so that the natural structure of the substances is preserved.

2 THE PRODUCTS

Production plans are being laid for the following items:



Swift's Mixed Fatty Acids
Swift's Cottonseed Fatty Acids
Swift's Animal Fatty Acids
Swift's Linseed Fatty Acids
Swift's Corn Oil Fatty Acids
Swift's Soybean Oil Fatty Acids
Swift's Palm Oil Fatty Acids
Swift's Hydrogenated Marine Oil Fatty Acids

Swift's Fractionated Fatty Acids
Swift's Stearic Acid
Swift's Oleic Acid

Swift's Drying Oils
Swift's Fractionated Sardine Oil
Swift's Fractionated Menhaden Oil
Swift's Fractionated Soybean Oil
Swift's Fractionated Linseed Oil

Other Swift Glycerides
(*now in production*)
Swift's Lard Oils
Swift's Tallow Oil
Swift's Marine Oils
Swift's Neatsfoot Oil
Swift's Sperm Oil

Specialties
(*now in production*)
Swift's Sulfonated Sperm Oil
Swift's Sulfonated Tallow Oil
Swift's Sulfonated Castor Oil (Turkey Red Oil)
Swift's Sulfonated Neatsfoot Oil
Swift's Spermaceti
Swift's Textile Oils
Swift's Anti-foam Agents

3 SWIFT'S TECHNICAL PRODUCTS SERVICE

It brings you:

Representatives who know your problems and requirements.

Product technicians available for consultation on any Swift technical product.

Exploratory research developing products to further increase the efficiency of your operation.

This team is at your service now. Make use of it today!

Address inquiries to:

SWIFT & COMPANY

INDUSTRIAL OIL DEPARTMENT
Union Stock Yards, Chicago 9

SANDOZ PRESENTS

the color achievement of the month

"Cooler" Achievement

...BY DAN RIVER MILLS

Dan River Mills' "River Cool" keeps customers from getting "hot under the collar" in more ways than one.

Suits made from this summertime fabric are as light as a breeze on days when the air is hot and heavy . . . the rayon weave is so resistant to wrinkling that a business suit is still in shape at the end of the day . . . and the colors are extremely fast to perspiration, pressing and cleaning.

For dyes and auxiliary chemicals that help build *sales appeal* and *service* into fabrics, many firms of Dan River Mills' calibre come to Sandoz. Among recent Sandoz developments is

CUPROFIX

a new after-treatment for certain *direct* dyes giving results on cellulosic fibres that are superior to diazotized and developed colors. Cuprofix Colors and Cuprofix after-treatment greatly improve fastness to both acid and alkaline perspiration, home laundering and hot wet pressing. There is no migration of color while in the wet state. Even light fastness is improved in some cases (particularly in comparison with developed dyes).

Send for free sample. And for any acid, chrome or direct dyes . . . or auxiliary chemicals . . . for both natural and synthetic fibres . . . be guided by the successful "color achievements" you see in these Sandoz advertisements.

SANDOZ CHEMICAL WORKS, INC., 61 VAN DAM STREET, NEW YORK 13, N. Y.

Application laboratories and stocks at Boston, Philadelphia, Charlotte, Chicago, Los Angeles, Toronto. • Other branches at Providence and Paterson.

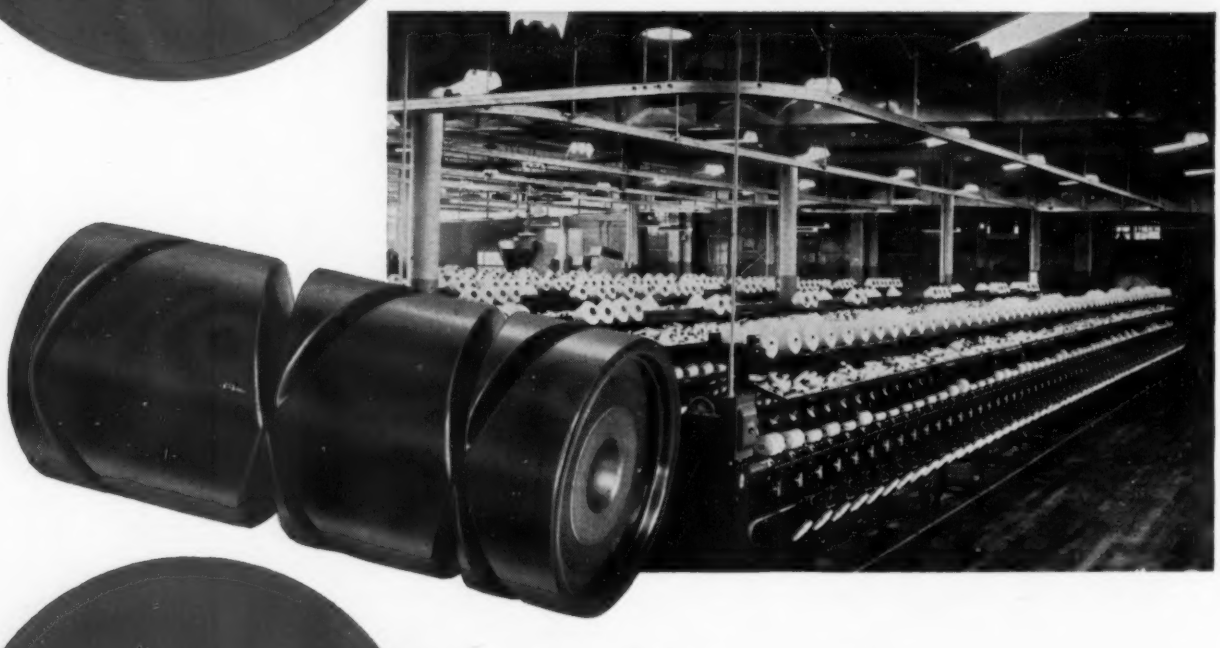
SANDOZ *thinks ahead with textiles*

IN THE
Winding Room
AT WEST BOYLSTON

*It's Roto-Coners**

This is one section of the winding room at the Boylston, Alabama mill of West Boylston Manufacturing Company of Alabama. The machines are Roto-Coners*, the winding machines for cotton yarn† which are now being selected *in the majority of cases* for new installations and replacement of old winding equipment.

†And in slightly different form for wool and worsted, spun rayon



IN
Roto-Coners*

It's the Rotary Traverse

This is the rotary traverse, the exclusive one-piece combination driving drum and traverse guide. It is the major reason why the Roto-Coner* can be operated at speeds up to 550 ypm regardless of yarn count, and at a cost for maintenance of less than ½ of 1% on investment. It is also the reason why packages wound on the Roto-Coner* – uniform in shape and density, free from roll-cuts and underwinds, accurately inspected – are preferred for knitting, warping, dyeing, twisting.

UNIVERSAL WINDING COMPANY

Providence, Boston, Philadelphia, Utica, Charlotte, Atlanta, Chicago, Los Angeles; Montreal, Hamilton, Canada; Manchester, England; Paris, France; Basle, Switzerland

Agents in every principal textile center throughout the world

*®

ROTO-CONER* *the only machine with the rotary traverse*

Rayon Reports

Prepared Monthly by American Viscose Corporation in New York, N.Y. October 1948

New pulp source to meet future needs of rayon production

In order to meet the anticipated increase in the rayon requirements of its customers, American Viscose Corporation has joined with Puget Sound Pulp & Timber Company of Bellingham, Wash. in the organization of the Ketchikan Pulp & Paper Company to produce wood pulp in southeastern Alaska.

Ketchikan, headquarters for the new organization, is located on Revillagigedo Island just off the coast of Alaska about 650 miles northwest of Seattle, Wash. (see map). Near here a new mill—with a daily capacity of 300 tons of high alpha pulp—will be built starting next summer. The timber involved is virgin spruce and hemlock located for the most part in the northern half of Prince of Wales Island across the strait from the mill. Scientific conservation practices will be followed in utilizing these timber resources, thus assuring the textile industry a stable supply of one of its basic raw materials for generations to come.

Map showing location of projected mill. Shaded areas show extent of timber resources.

A recent advertisement in the Avisco public relations series that has proved unusually successful in creating interest in non-woven rayon products. Although it appeared only in The New Yorker, Time, Wall Street Journal and Journal of Commerce and contained only the most casual "buried" offer, several thousand readers have written in for samples of the napkins.

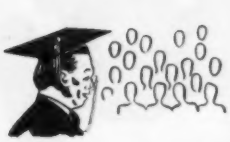
MAKE USE OF *Avisco*®
4-PLY SERVICE

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

1 FIBER RESEARCH
2 FABRIC DESIGN
3 FABRIC PRODUCTION
4 FABRIC FINISHING

AMERICAN VISCOSE CORPORATION
America's largest producer of rayon
Sales Offices: 350 Fifth Avenue, New York 1, N. Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.

RAYON 20 YEARS AGO



New York, October 1928—New York University School of Retailing is offering a course on "Rayon." The curriculum includes history and processing of rayon, detailed demonstration and study of different constructions, and the use of rayon in apparel and interior decorations.

New York, October 1928—Rayon Yarn Association, a body composed of dealers and processors of rayon, incorporated in New York State to foster trade and commerce among members, reform abuses and procure uniformity.

New York, October 1928—Active interest shown by hosiery manufacturers in non-luster rayon. Some houses unable to meet demand.

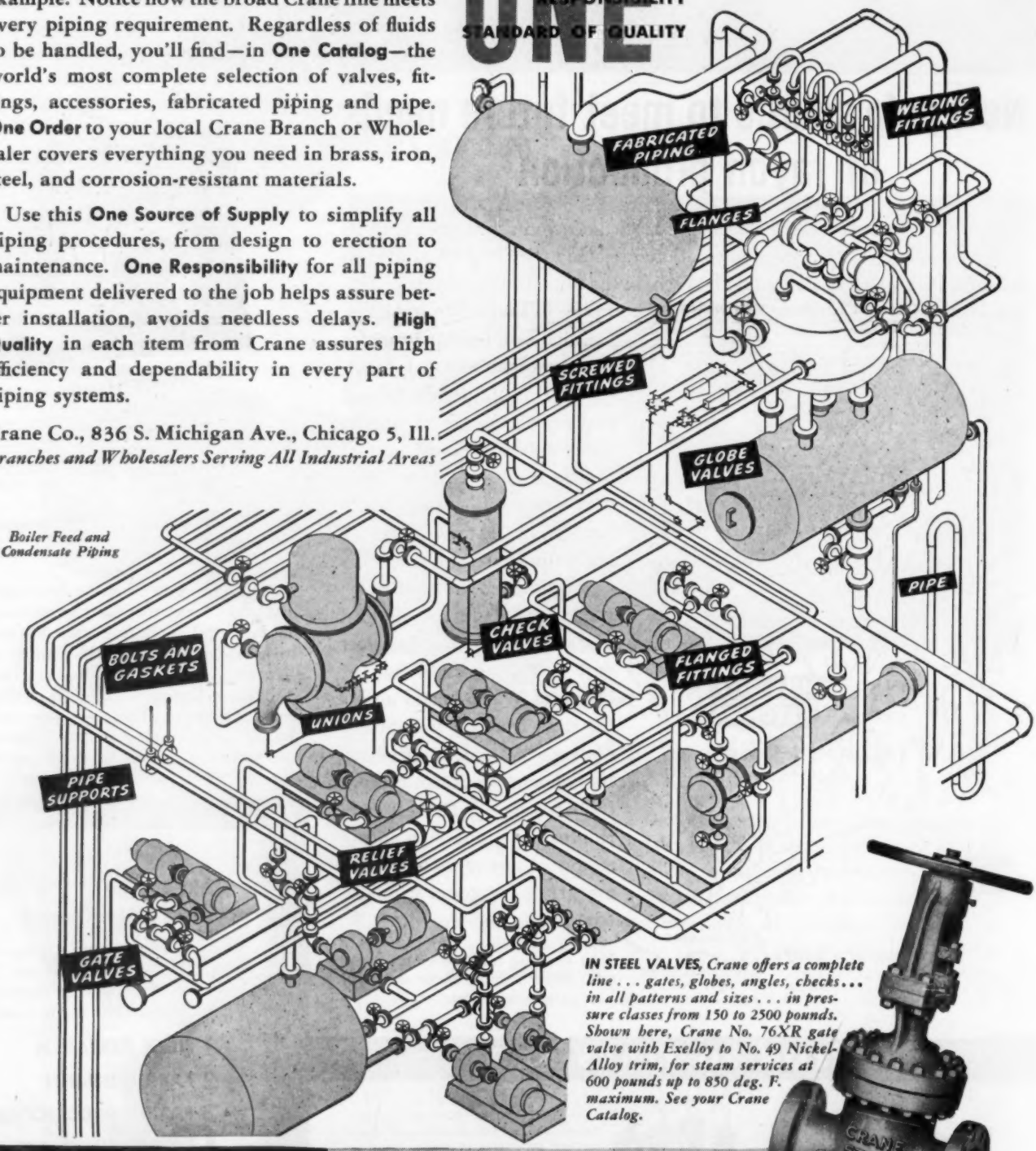
If it's anything in piping...
CRANE has everything you need

Take This Boiler Feed and Condensate System, for example. Notice how the broad Crane line meets every piping requirement. Regardless of fluids to be handled, you'll find—in **One Catalog**—the world's most complete selection of valves, fittings, accessories, fabricated piping and pipe. **One Order** to your local Crane Branch or Wholesaler covers everything you need in brass, iron, steel, and corrosion-resistant materials.

Use this **One Source of Supply** to simplify all piping procedures, from design to erection to maintenance. **One Responsibility** for all piping equipment delivered to the job helps assure better installation, avoids needless delays. **High Quality** in each item from Crane assures high efficiency and dependability in every part of piping systems.

Crane Co., 836 S. Michigan Ave., Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas

ONE
SOURCE OF SUPPLY
RESPONSIBILITY
STANDARD OF QUALITY



Boiler Feed and Condensate Piping

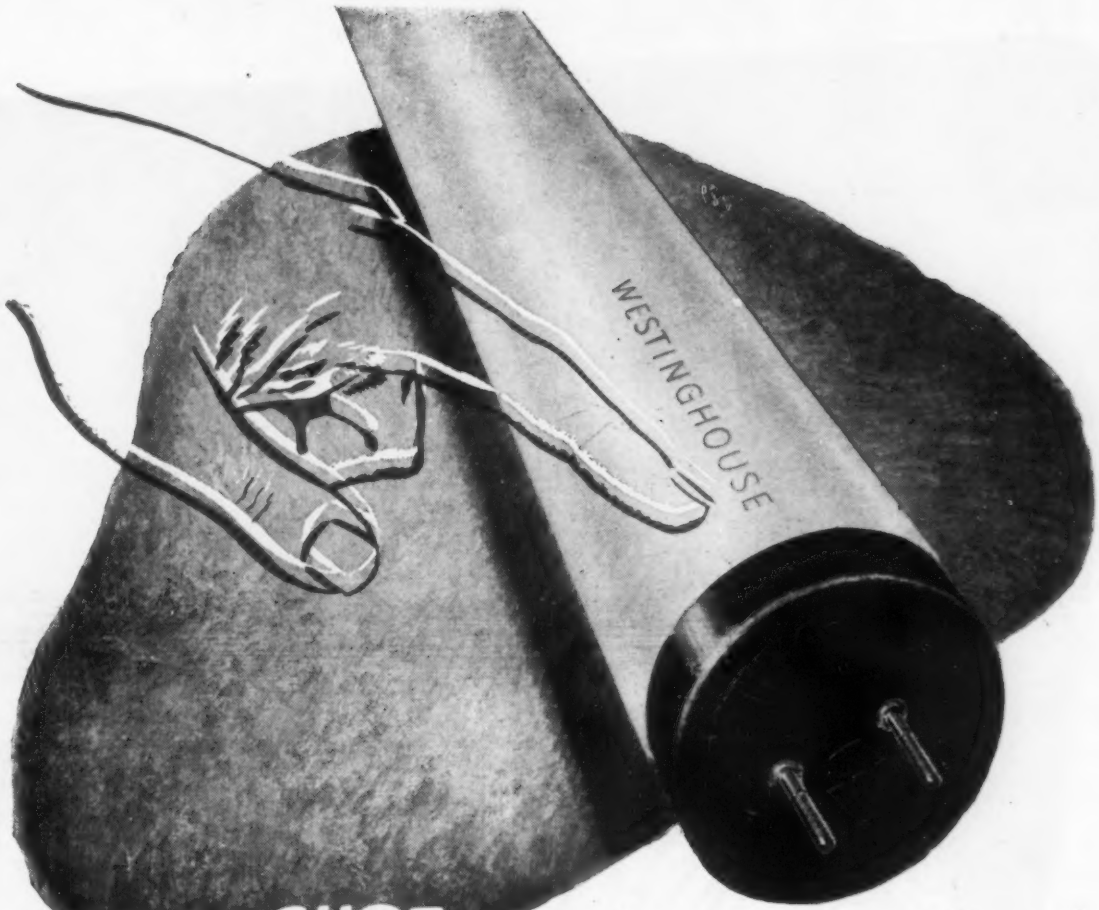
IN STEEL VALVES, *Crane offers a complete line . . . gates, globes, angles, checks . . . in all patterns and sizes . . . in pressure classes from 150 to 2500 pounds. Shown here, Crane No. 76XR gate valve with Exelloy to No. 49 Nickel-Alloy trim, for steam services at 600 pounds up to 850 deg. F. maximum. See your Crane Catalog.*

EVERYTHING FROM . . .

VALVES • FITTINGS
PIPE • PLUMBING
AND HEATING

CRANE

FOR EVERY PIPING SYSTEM



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Westinghouse

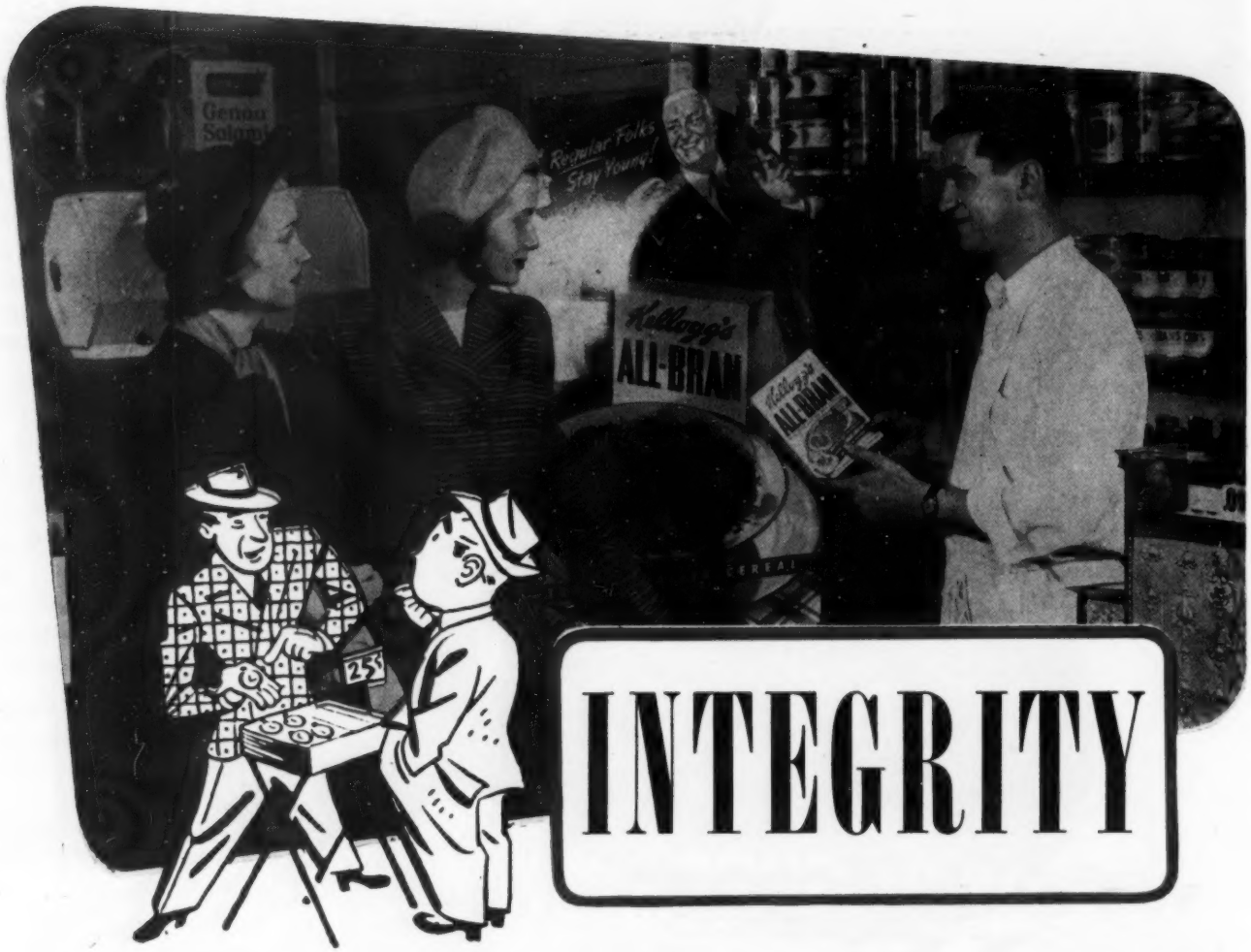
THE NAME YOU KNOW IN Lamps

You naturally want the best fluorescent lamps available to keep your lighting system operating at peak efficiency. That's why more and more plants are using Westinghouse fluorescent lamps. Westinghouse lamps are a quality product, subjected to 486 tests and inspections from raw material to finished product.

When you use Westinghouse fluorescent lamps, you can be sure of uniformity, long life and high efficiency—the three important advantages you need to get the most out of your lighting system. So the next time you need lamps, specify Westinghouse.

Send for free booklet A-4759 "A Practical Guide to Westinghouse Fluorescent Lamps and Equipment."

LAMP DIVISION, WESTINGHOUSE ELECTRIC CORP., BLOOMFIELD, N. J.

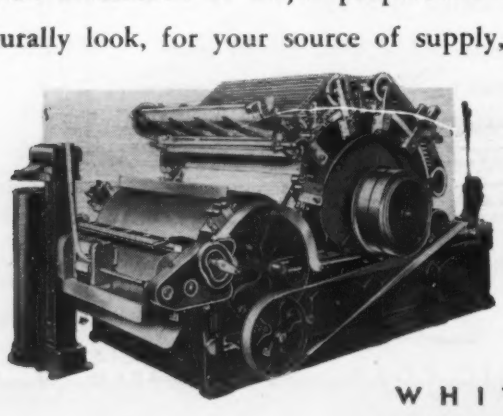


INTEGRITY

You pass the "Pitchman" by, for you know that in spite of his slick sidewalk sales talk, the gadgets he sells are of questionable value. You patronize your established stores . . . buy their products . . . because you *know* they stand behind the merchandise they sell.

When the purchase of textile machinery for your mill is under consideration — generally a capital investment of major proportions — you naturally look, for your source of supply, to a manufacturer whose reputation for integrity and reliability is well established.

For well over a century, Whitin has manufactured high-performance machinery — maintaining a large stock of genuine Whitin replacement parts to guarantee to each and every purchaser of Whitin equipment that the machines which perform so well today, will continue to operate productively, year after year, until obsolescence.



When you buy textile equipment — buy the best . . . buy WHITIN!

Whitin
MACHINE WORKS

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CHARLOTTE, N. C. • ATLANTA, GA.

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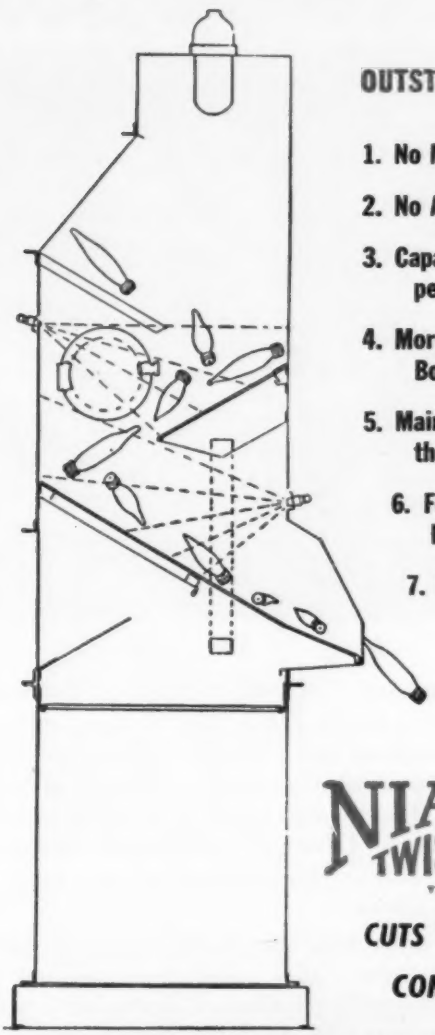
Second Floor • Booth No. 230-31



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1. No Moving Parts
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REVOLUTIONARY!

An outstanding highlight at the Greenville Show . . . the revolutionary Niagara Twist-Setter.

With no moving parts, the Niagara Twist-Setter employs an entirely new principle of design to achieve highest production at lowest cost. Yarn is sprayed from all sides affording maximum uniformity. Many leading mills use the Niagara Twist-Setter to cut conditioning costs. Write today for detailed information.

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CUTS YOUR CONDITIONING COSTS

FOR BEST RESULTS USE SEYCO PENETRANTS

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PENETRANTS • SIZING • SHUTTLE DRESSING • SOFTENERS • ALKALIS
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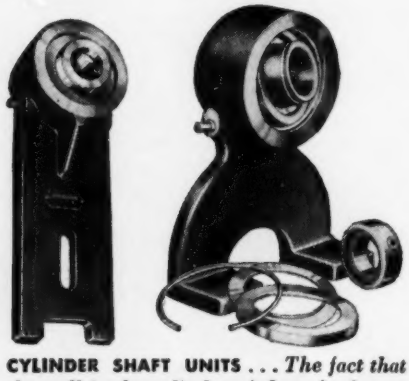
KEEP PRODUCTION UP AND DOWN-TIME DOWN

with Fafnir Ball Bearing replacement units

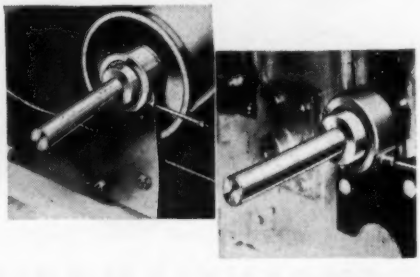
for these standard makes of spinning frames and twisters:
FALES & JENKES, MASON, HOWARD & BULLOUGH,
SACO-LOWELL, WHITIN and PRINCE-SMITH

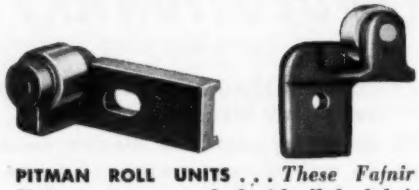
Just look at the record . . . of these Fafnir Ball Bearing Units in America's leading textile plants. Repair time becomes production time. Lubricant and lubrication time is saved. These units need lubrication only three times a year. No oilers and no spoilage from oil. Less wear on frames, longer life for belts and more uniform speeds. Lifting the friction boosts speeds and levels them off. A ball bearing equipped frame is ready to doff fully five minutes sooner.

And the Wide Inner Ring construction of Fafnir Ball Bearing Replacement Units makes installation easy and lasting. They assemble complete onto standard shafts and lock in position with a twist of the wrist. Fafnir Units with this Wide Inner Ring feature for all standard textile machinery . . . opening, cleaning, picking, carding, drawing, roving, spinning and twisting, winding, warping, slashing, weaving and finishing equipment. The Fafnir Bearing Company, New Britain, Conn.



CYLINDER SHAFT UNITS . . . *The fact that the pull in the cylinder of the spinning or twister frame is all on one side has always been a major problem when plain bearings were used. It is no problem at all when Fafnir Ball Bearing Units are substituted. They operate efficiently in any position, without wear or vibration. That increases the life of tapes, cylinders and the whole machine.*





PITMAN ROLL UNITS . . . *These Fafnir Units are factory-packed with all the lubricant they will ever need. No oiling, no accumulation of fly, no binding of the roll, no scuffing of the cam contour. Cams last longer, bobbin build is more uniform, dragging is eliminated, builder motion is more sensitive and ring rail performance is positive.*

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FAFNIR
BALL BEARINGS

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Acetic Acid
Muriatic Acid
Sodium Benzoate, U.S.P.
Benzaldehyde, technical and N F
Cinnamic Aldehyde
Methanol (natural)
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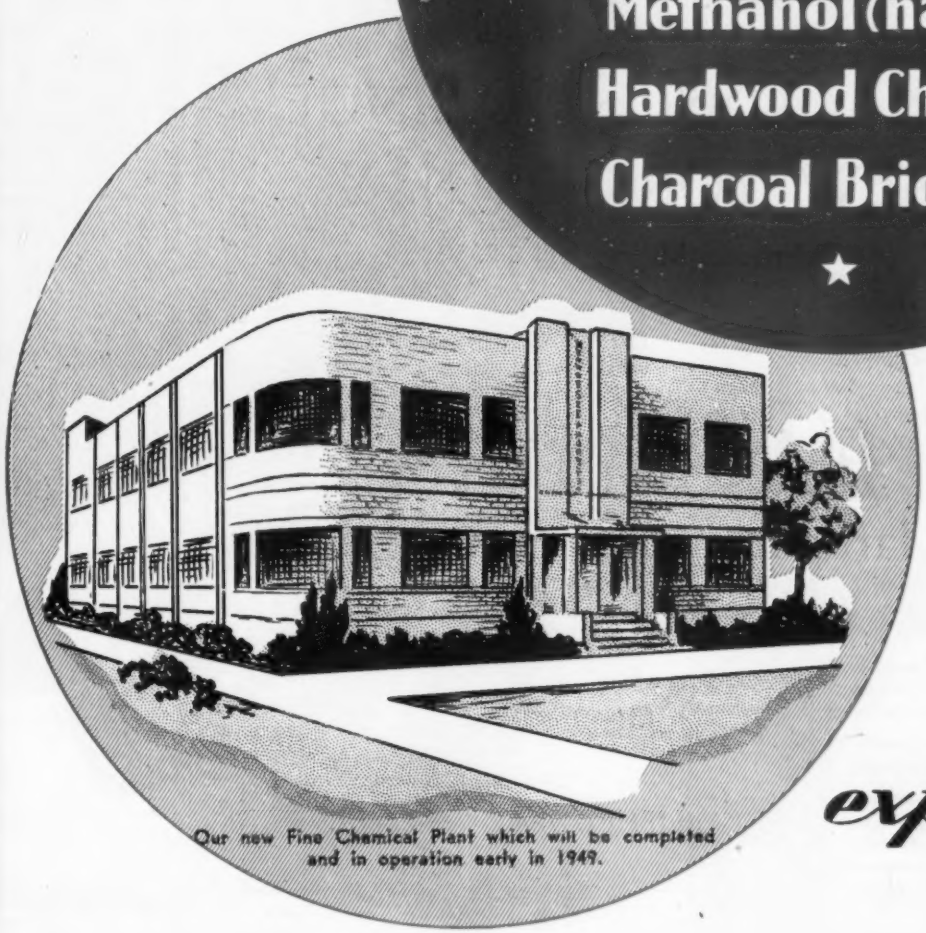

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TEXROPE F/HP Drives

- **"ENGINEERED" FOR INDUSTRY!**
- **AVAILABLE NOW!**
- **CARRY THE NAME "TEXROPE"... AND OVER 25 YEARS OF EXPERIENCE!**

IF YOU'RE IN THE MARKET for fractional horsepower V-belt drives, here are good reasons for investing in TEXROPE — the greatest name in V-belt Drives. 1) They're "engineered" — selected and applied to suit the exact characteristics of your drive. 2) They're in stock at Authorized A-C Dealers or available promptly through A-C District Offices, and 3) They're backed by the greatest collection of V-belt drive experience and facilities of any company in this business.

TEX-IRON F/HP SHEAVES

High density cast iron. Accurately bored for easy fit with tight shaft grip. Precision grooved for non-slip power and longer belt life. Carefully balanced for vibrationless operation at all speeds.

TEXROPE F/HP V-BELTS

Best known name in V-belts. Carry full rated load with plenty of overload and shock load capacity. Molded to fit sheave groove and grip tightly without excess wear or wasted power. An ideal teammate for Tex-Iron sheaves. Highly efficient on present sheaves, too.

The complete range of Tex-Iron sheaves from 2 to 15 inches PD and Texrope V-belts to match are now available from your dealer's stock. Call him today. Texrope, Tex-Iron, Super 7, Texsteel, Magic Grip and Vari-Pitch are Allis-Chalmers Trademarks. ALLIS-CHALMERS, MILWAUKEE 1, WIS.

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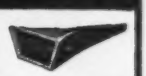
SEND TODAY for Allis-Chalmers 44 page book No. 2086249A describing Texrope F/HP V-belt drives — the Fractional Horsepower Drive that's "Engineered" for Industry. Result of years of experience in engineering FHP V-belt drives. Shows you simple, accurate way to select FHP sheaves and belts. Every FHP drive user should have a copy.

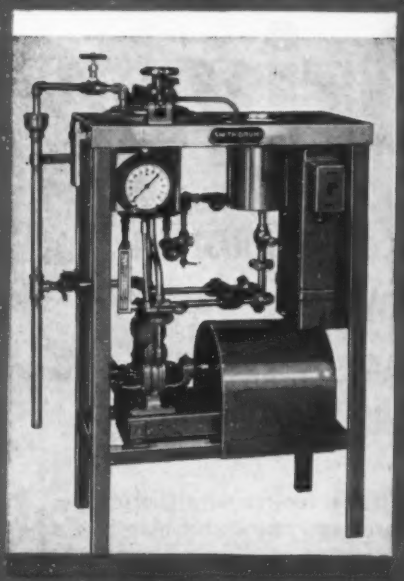
A Complete Range of Products

Super-7 V-belts	5 types . . . sizes to suit every power transmission job	
Texsteel, Texdrive, Magic-Grip	Sheaves in a full range of sizes and grooves	
Vari-Pitch Sheaves	Exact variations in speed — Stationary or Motion control	
Speed Changers	Speed variations up to 375% at the turn of a crank	

Texrope Super-7 V-belts result from the cooperative research of Allis-Chalmers and B. F. Goodrich; and are sold only by A-C dealers and offices.

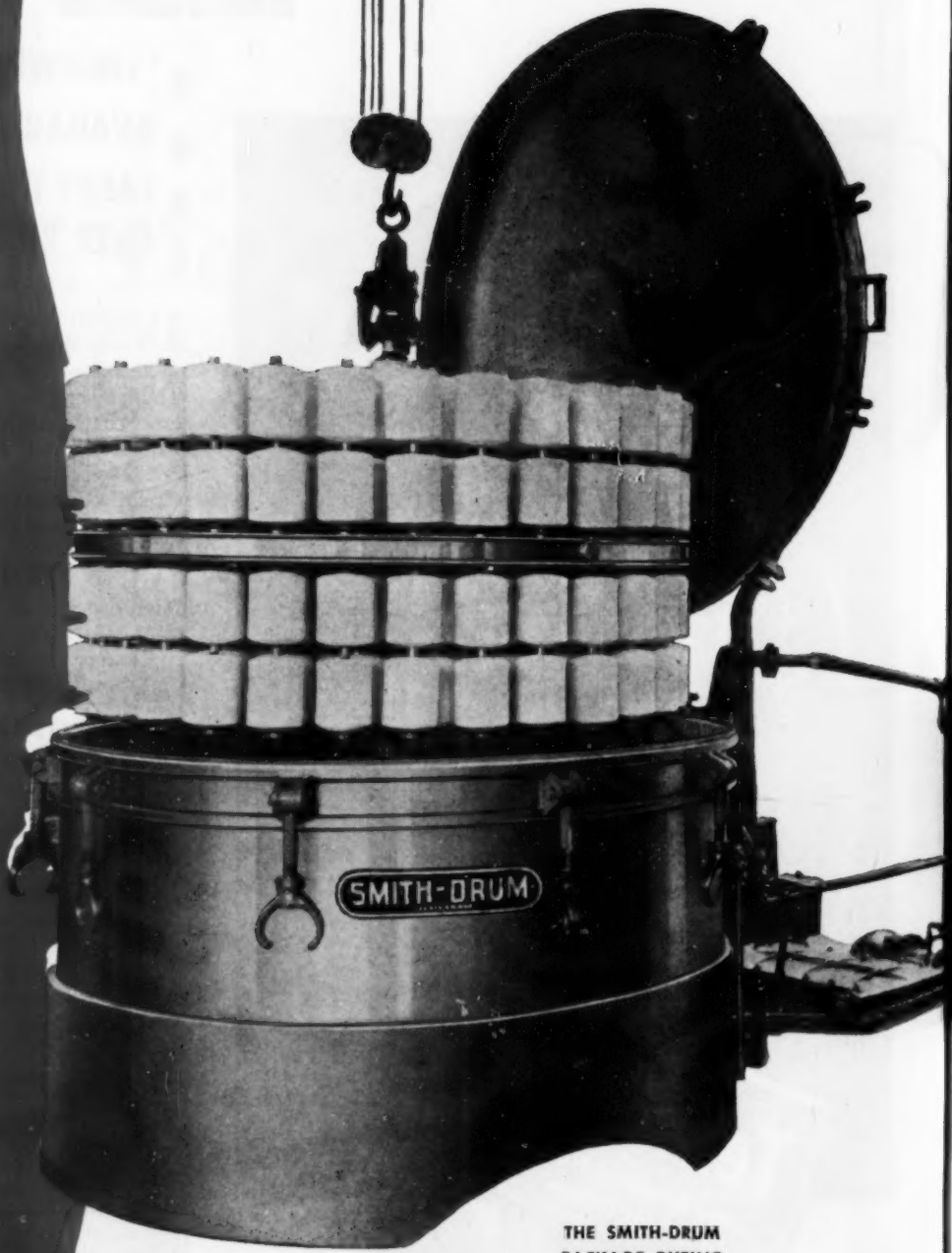
ALLIS-CHALMERS

Originators of the Multiple V-belt Drive for Industry



SINGLE PACKAGE DYEING MACHINE

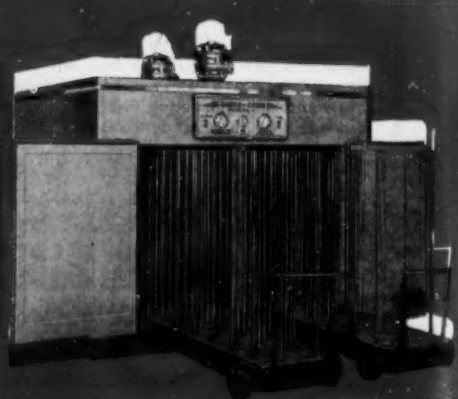
PACKAGE FORMING PRESS



THE SMITH-DRUM
PACKAGE DYEING
MACHINE

PACKAGE
EXTRACTING MACHINE
(MECHANICAL TYPE)

PACKAGE EXTRACTING
MACHINE (AIR PRESSURE TYPE)



PACKAGE DRYING MACHINE
(CABINET TYPE)

Integrated Systems

For DYEING, EXTRACTING and DRYING YARN in PACKAGE FORM

Each designed to meet your own specific Local Conditions . . .

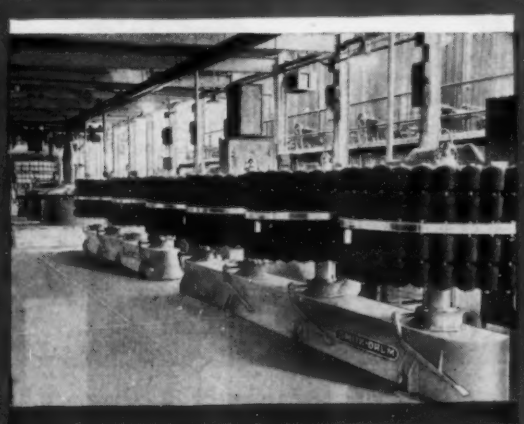
Smith-Drum offers two *complete* and *integrated* systems for preparing, dyeing, extracting and drying yarn in package form on the 5/8" diameter dye tubes. (For packages wound on the large 1 5/8" dia. dye tubes Smith-Drum offers complete systems of other design). Each machine has been specially designed and built for the specific purpose of handling packages and is the result of extensive research and experimentation.

These two complete Smith-Drum Package Systems allow for variable local conditions by providing two optional types of extracting machines (mechanical and air pressure types) and 3 optional types of drying machines (cabinet, port and table types). Where mechanical extraction and cabinet drying may be ideal in one case, air pressure extraction and port blower drying may be better suited for another installation. Our representatives will discuss the advantages of each as applied to your particular needs.

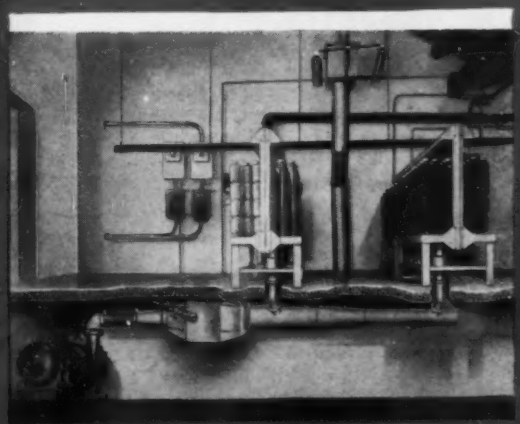
The Smith-Drum system results in faster, more uniform work . . . lower costs, less labor and increased production. Every machine incorporates important advancements in operation and many exclusive Smith-Drum features. The entire system may be installed complete or individual Smith-Drum machines may be used in conjunction with your present equipment to improve the over-all efficiency of your dyehouse operation. In addition to the machines illustrated, Smith-Drum can supply air compressors and hoists to be used with this equipment. Complete information is contained in our Catalog No. PBD-801. Write for your free copy today, without obligation, of course.

SMITH, DRUM & COMPANY

Allegheny Avenue at 5th Street, Philadelphia 33, Pa.



PACKAGE DRYING MACHINE (PORT TYPE)



PACKAGE DRYING MACHINE (TABLE TYPE)

Liquid

Detergents

that clean better and wet out fast!

Which fills your needs?

Three concentrated detergents from which to choose—the first an "across-the-board" scouring and wetting agent, the second particularly effective for wool yarns, the third an excellent scouring agent in alkaline solutions. The Houghton Man can recommend the best for your particular need. Ask him, or write us for suggestions. E. F. Houghton & Co., Philadelphia 33, Pa. and Charlotte 1, N. C.

CERFAK 1300

A non-ionic liquid detergent and exceptionally fast wetting agent having a wide range of applications. Not affected by high or low pH solutions; good in hard water.

CERFAK 1301

Effective non-ionic scouring agent over wide pH range; not affected by hard water, usable on all types of fibers, particularly for woolen yarns and fabrics.

CERFAK N-100

A highly concentrated detergent especially good for scouring in solutions having pH above 7, and in combination with any type of alkali.

E. F. HOUGHTON & CO. *Makers of* **CERFAK**

THE GOOD RIGHT HAND OF INDUSTRY

Change of Pace

for each job run... steplessly, instantly

The most *compact* variable speed drive. Greatest number of speed variations in one machine.

With a Worthington Allspeed Selector on your machine drive, you have a broad choice of speeds — all in one "package". You can vary the speed for each individual job run — without shutdown for speed change.

What's the best speed for the material? What's your desired production rate? How much can the operator handle? Whatever the answer, you can set the Allspeed Selector accordingly — in an instant.

IMMEDIATE DELIVERY

Call on your Worthington distributor — your local "good right hand of industry" — listed in Thomas' Register under "Drives". He has ample stocks of Worthington Allspeed Selectors supported by factory stocks. Send coupon for free bulletin on Worthington Allspeed Selectors.

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MERCHANDISING DIVISION

The Good Right Hand of Industry

PUMPS: centrifugal, power, rotary, steam

COMPRESSORS: horizontal, radial, vertical

POWER TRANSMISSION: sheaves, V-belts, variable speed drives

Worthington Pump and Machinery Corp.
Merchandising Division
Harrison, New Jersey

Send latest bulletin on Worthington Allspeed Selectors.

Name.....

Company.....

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INVISIBLE SECURITY...

Results you can SEE!

Do you need *controlled humidity*...

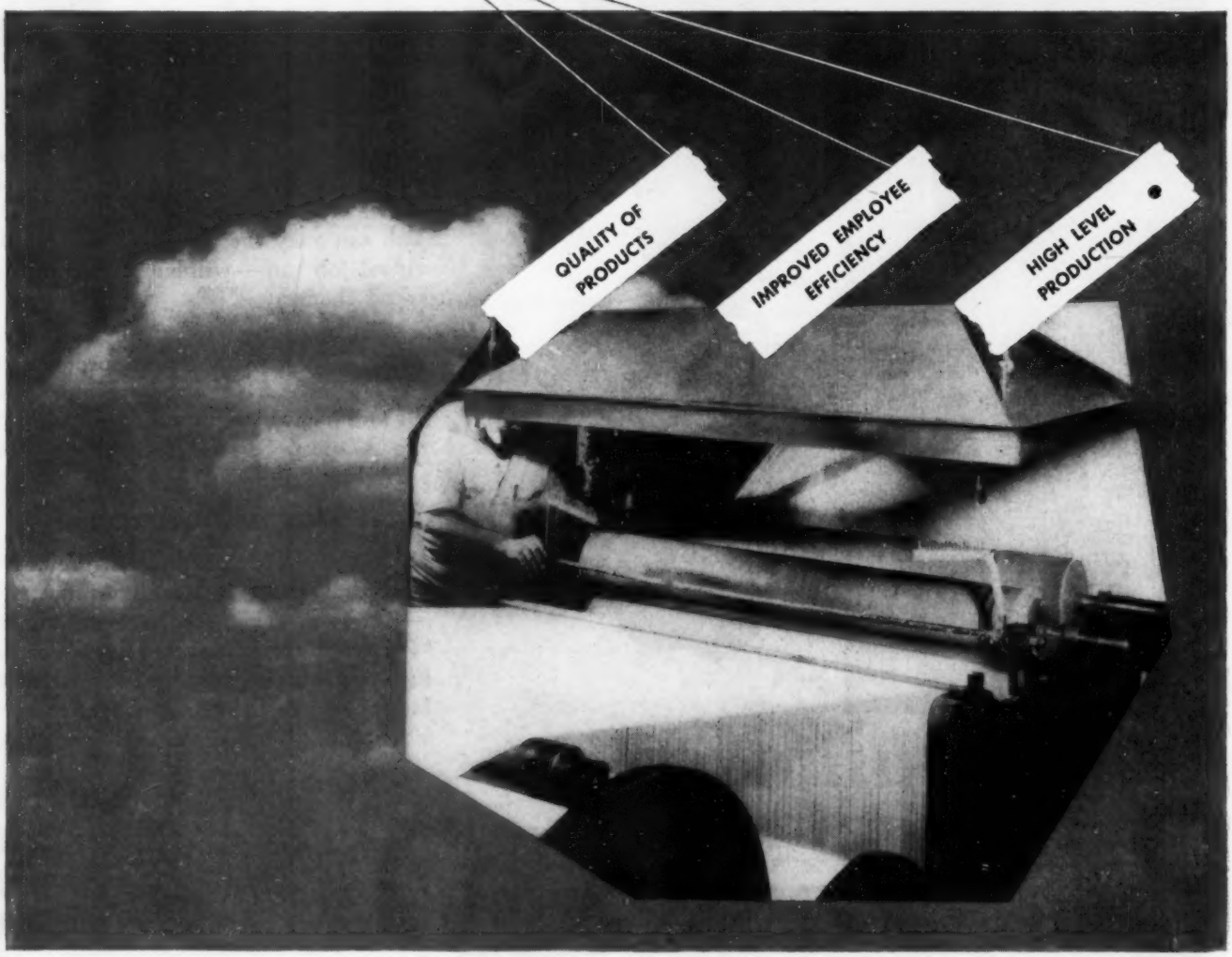
to improve quality of work?
to maintain uniformity?
to reduce static and fly?
to maintain plasticity of size?
to improve loom operations?
to hold filament strength and dimension?

and controlled temperature...

to maintain machine adjustments?
to hold machine tolerances?
to give uniformity in knitting operations?
for spot cooling in bleaching and finishing?
to provide employee comfort and health?

These benefits and many more are the visible and tangible results that air conditioning with York can bring to your mill operations. York central station systems will give you accurate control over temperature and humidity . . . operate at a minimum of cost and attention.

And, whatever your specific needs in air conditioning, there's a complete range of York equipment to meet them, and a York representative ready to talk textile installations. He is prepared to supply your plant engineer, consulting engineer and installing contractor with specific information as to equipment—its capacities and performance to fit your special needs. His accumulated data on air conditioning in your particular field will be helpful. York Corporation, York, Pennsylvania.



YORK *Refrigeration and Air Conditioning*

HEADQUARTERS FOR MECHANICAL COOLING SINCE 1885

Worn Out?

not with NI-ROD in the shop!

Badly worn cast-iron cam. The first beads of Ni-Rod have been laid.

Worn surfaces have been built up with Ni-Rod.

Cam, after machining. Ni-Rod deposit now forms the wearing surfaces.

The problem: When this large cast iron cam wore out, it laid up a power shear in the sheet metal plant of McGruer, Fortier, Meyers, Ltd., Montreal, Canada.

Their maintenance men found that the minimum replacement time for the cam would be three weeks. To get the shear back in service sooner, they decided to try repairing.

The solution: The worn camming surfaces were built up with Ni-Rod* and subsequently machined to contour. The Ni-Rod deposit thus formed the new wearing surfaces.

Result? The power shear was back on the job within *3 days* instead of 3 weeks!

This is a *typical* Ni-Rod story — sound, strong, machinable welds in cast iron. Preheating is seldom required. Ni-Rod's easy-to-control arc facilitates cast iron repair work; cuts overhead on tough assignments. It works on both A.C. and D.C.

Check Ni-Rod's superiority in your own shop. Order a 5-lb. package from your nearest INCO distributor. Available in 3/32", 1/8", 5/32" and 3/16" sizes.

*Reg. U. S. Pat. Off.

THE INTERNATIONAL NICKEL COMPANY, INC., 67 Wall Street, New York 5, N.Y.

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NEW WELDING BOOKLET

The International Nickel Company, Inc.
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Please send my free copy of: *"NI-ROD . . . a new electrode for cast iron welding."*

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ANY WOOL PRODUCT...

BECOMES A BETTER WOOL PRODUCT

WHEN IT'S *Schollerized*

WASHABLE WOOL

SAFE TO TUB • SAFE TO RUB

- **No foreign material is added to the wool . . . its weight remains unchanged.**
- **Felting is eliminated.**
- **Shrink-resisting qualities last for the life of the garment. Made to size, it will stay to size.**
- **Appearance is unaffected while comfort and useful life of the processed garment is greatly enhanced.**
- **Washing is easier . . . dirt just rolls out because felt dirt-pockets are eliminated. Fast colors retain a bright, new appearance.**
- **Resiliency, elasticity, softness, texture, feel or "hand" are completely retained or enhanced.**
- **The strength of the original fibre is usually increased.**

Write Today For Full Details On The Amazing Scholler Wool Shrinkage-Control Process applied to YOUR product!

. . . yes, any wool product becomes a *better* wool product when it's SCHOLLERIZED! That's because the Scholler Process* allows the wool to retain all of its natural qualities yet prevents the shrinkage from matting and felting which so often makes a wool garment useless after several washings. The shrink-resistant qualities of Schollerized Wool assure life-of-the-fabric comfort.

**Patent Pending*

Made to size, it will always stay to size—if it's SCHOLLERIZED!

SCHOLLER BROTHERS, INC.

Manufacturers of Scouring, Dyeing and Finishing Materials

COLLINS at WESTMORELAND, PHILADELPHIA 34, PA.

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SERVING THE TEXTILE INDUSTRY FOR MORE THAN FORTY YEARS

A Textile Utility
Product of
Wide Application

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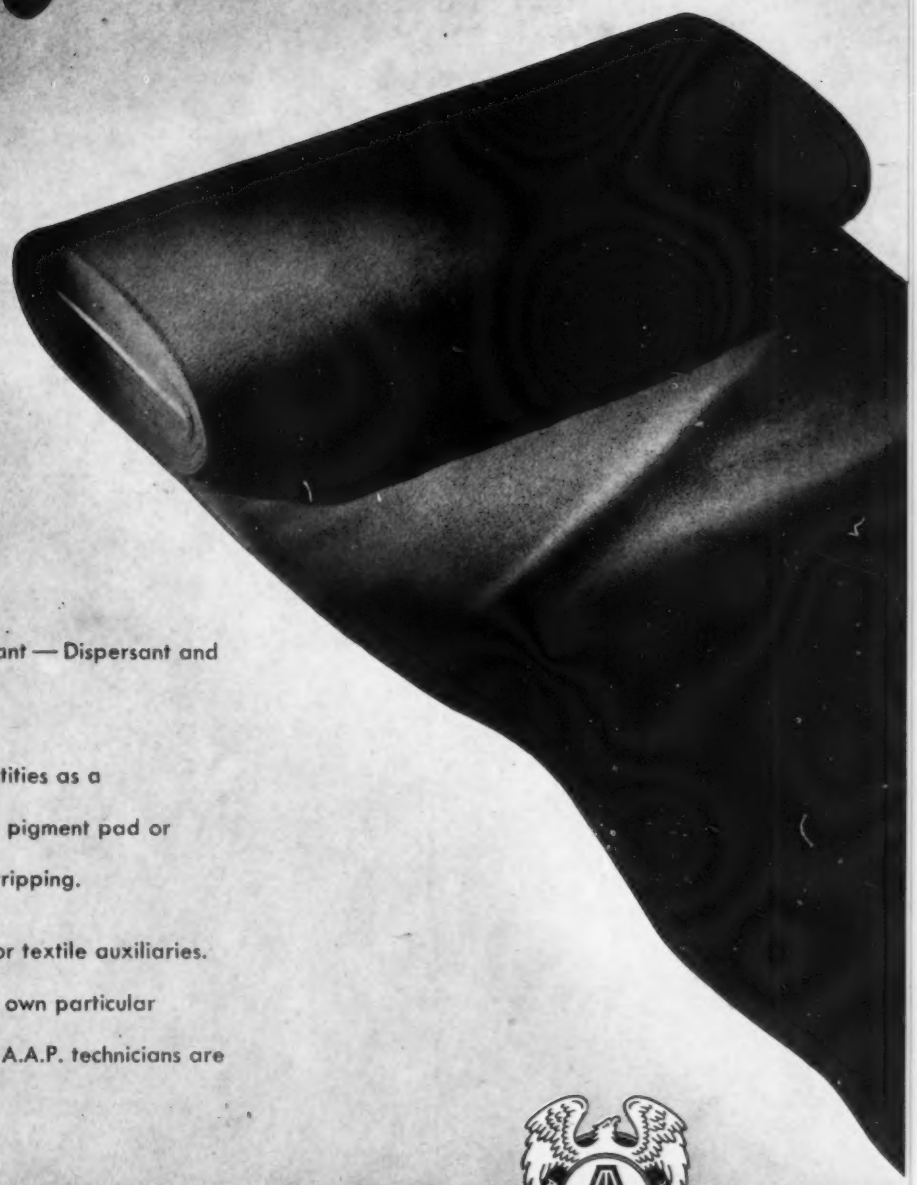


- preparing
- dyeing
- finishing

An effective Leveling agent — Penetrant — Dispersant and active Stripping Catalyzer.

Particularly well suited in minute quantities as a retardant for vat dyeing — either in the pigment pad or reduced methods — as well as for vat stripping.

Another of the A.A.P. range of superior textile auxiliaries. For detailed information regarding your own particular requirements consult our nearest branch. A.A.P. technicians are always happy to be of service.

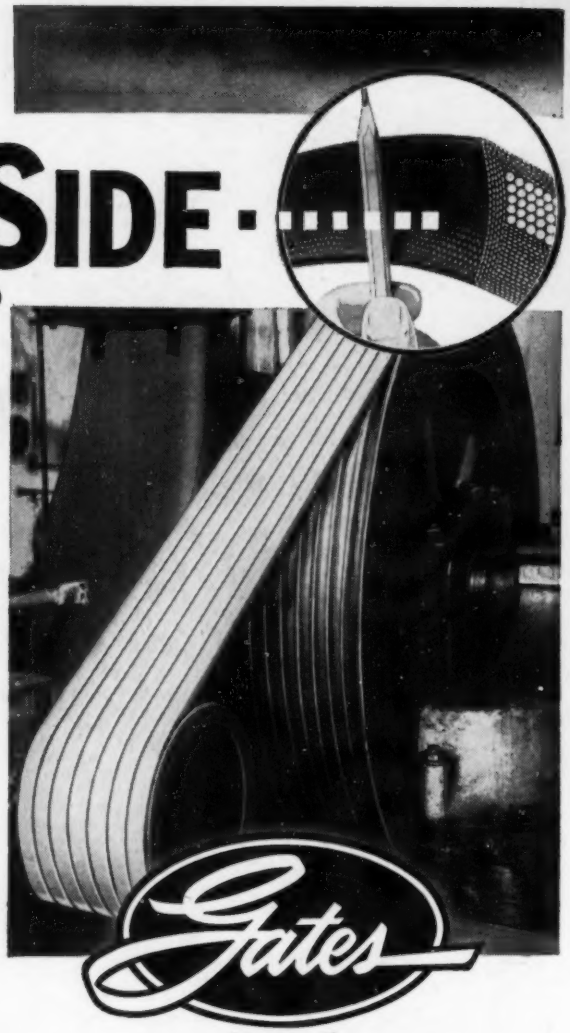
AMERICAN ANILINE PRODUCTS, INC., 50 Union Square, New York, N. Y. • ***Plant:*** Lock Haven, Pa.
Branches: Boston, Mass. • Providence, R. I. • Philadelphia, Pa. • Charlotte, N. C. • Chicago, Ill. • Los Angeles, Cal.
Chattanooga, Tenn. • **Dominion Anilines & Chemicals Ltd.** • Toronto, Canada • Montreal, Canada

*Reg. U. S. Pat. Off.

Here is ***WHY*** *the*

CONCAVE SIDE-

(U. S. PATENT NO. 1813698)



SAVES You Many DOLLARS In V-BELT Costs!

Every time a V-Belt bends around its pulley, the *top* of the belt is under *tension* and grows *narrower*. The *body* of the belt is *compressed*—causing the *sides* to *bulge out!*

FIG. 1

Because of these stresses, any V-Belt built with straight sides is forced to assume, in the sheave groove, the shape shown in figure 1, on the left.

This forced bulging of a *straight-sided* V-Belt against the sheave groove walls naturally produces excessive wear along the *middle* of the belt's sides—as indicated by the arrows. Also, because the full side of the belt does not *uniformly* grip the pulley, there is a definite loss in drive efficiency.

Now see the difference when you bend the V-Belt that is built with the precisely engineered Concave Side (U. S. Patent No. 1813698)—the Gates Vulco Rope.

FIG. 2

As the Gates Vulco Rope bends, its Concave Side becomes straight (Figure 2). It exactly fits the sheave groove—and this gives you two very definite savings:—

(1) No out-bulge of the sides means uniform side-wall wear—*longer life!*

(2) *Full side-width* grip on the pulley carries heavier loads and sudden load increases without slippage—saving your belts and saving power too!

The Mark of SPECIALIZED Research

The Concave Side is MORE IMPORTANT NOW Than Ever Before!

Because the *sides* of a V-Belt are what actually *drive* the pulley, it is clear that any increased load on the belt means a heavier load that must be transmitted to the pulley *directly* through the belt's sidewalls.

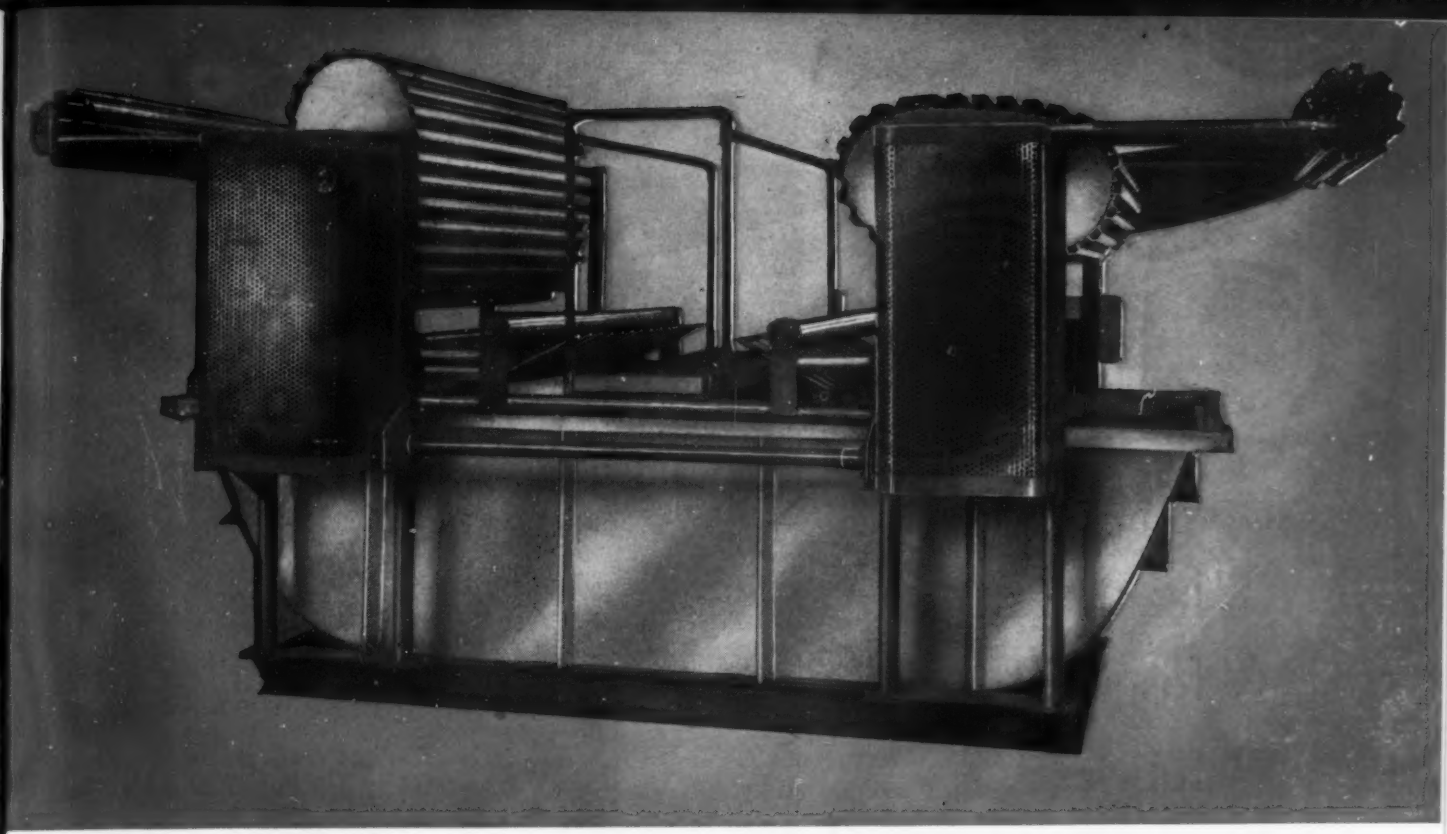
Now that Gates SPECIALIZED Research has made available to you *SUPER* Vulco Ropes—carrying fully 40% higher horsepower ratings—the life-prolonging Concave Side naturally delivers greater savings today than ever before.

4810

GATES VULCO ROPE DRIVES

Engineering Offices and Jobber Stocks IN ALL INDUSTRIAL CENTERS of the U. S. and 71 Foreign Countries

THE GATES RUBBER COMPANY
DENVER, U.S.A.
"The World's Largest Makers of V-Belts"



MAKING HISTORY

Our records show that 90% of those who have bought the new Continuous "Duplex" Dyeing Machine have reordered—some several times. The total in use is now over one hundred—a record acceptance in so short a time.

There are distinct reasons why successful companies have accepted this machine so quickly. The most important today is the greatly improved quality of the fabric after dyeing.

Users, also, report definite economies. Superior control features permit larger runs of yardage with the use of less dye liquor. In addition, continuous dyeing permits substantial time saving. One "Duplex" replaces two single line dye becks, plus.

The "Duplex" is being used successfully on a wide range of fabrics from lingerie sheers to suitings. It has an adaptability unmatched. Because of its low tension, it is now possible to dye continuously, fabrics which up to now have been handled only on single line machines.*

Why not contact us for full data?

**This machine embodies a number of patentable inventions and all steps necessary for patent protection thereon have been taken.*

VAN VLAANDEREN MACHINE COMPANY

370 Straight Street, Paterson 3, New Jersey • Cable Address: Vlaanderen, Patersonnj, U.S.A.

World's largest manufacturer of machines for processing modern fabrics.

WOVEN BY GREENWOOD MILLS

. . . a Cohn-Hall-Marx fabric,
in a raincoat by Sunreign, Inc.

a key note
in
fashion
fabrics . . .

Lanese®

STAPLE FIBER

Fabrics that contain a dominant proportion of Lanese, Celanese' staple fiber of acetate rayon, are gaining wide recognition for their wrinkle-resistance, high degree of dimensional stability, and excellent tailoring qualities. In the apparel trades, the trend is toward Lanese, the scientifically crimped fiber for fabrics of varied texture and weaves.

*Reg. U. S. Pat. Off.

CELANESE CORPORATION OF AMERICA, 180 MADISON AVENUE, NEW YORK 16, N. Y.

Branch Offices: CAMDEN, N. J., 300 Broadway CHARLOTTE 2, 1106 Liberty Life Building BOSTON 10, 140 Federal Street

UNION SPECIAL

...to help you

CUT COSTS, SPEED UP PRODUCTION!

All of the facilities and resources of Union Special Machine Company are concentrated on one objective: *industrial* sewing machines—specially designed TO HELP YOU CUT COSTS, SPEED UP PRODUCTION! The Union Special products you order today are actually more than just sewing machines. In every sense of the word, they are modern MACHINE TOOLS, each highly developed and precision-built for specific production jobs. And never have they been a *better* investment . . . FOR TODAY . . . FOR THE FUTURE!

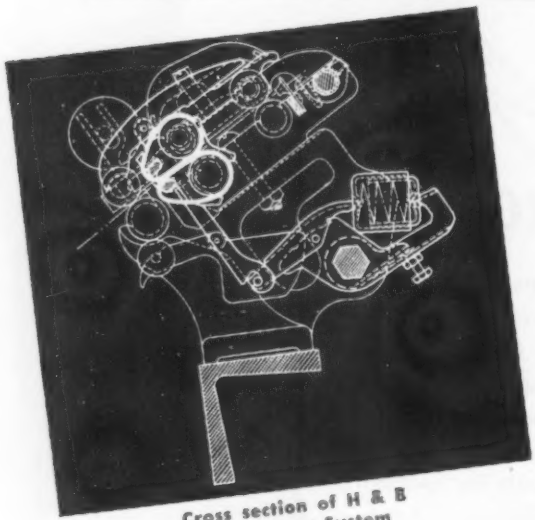
Union Special
A NEW
Fifty-Two-Eight
Widely used by undergarment manufacturers for attaching split tube borders, collarettes, and lace, new Class 52800 machines being produced by Union Special now embody many refinements in design for greater speed, smoother operation, and simplified maintenance.

UNION SPECIAL MACHINE COMPANY
407 N. Franklin St., Chicago 10, Ill.

INDUSTRIAL SEWING MACHINES

H&B CASABLANCAS

MORE FOR YOUR INVESTMENT

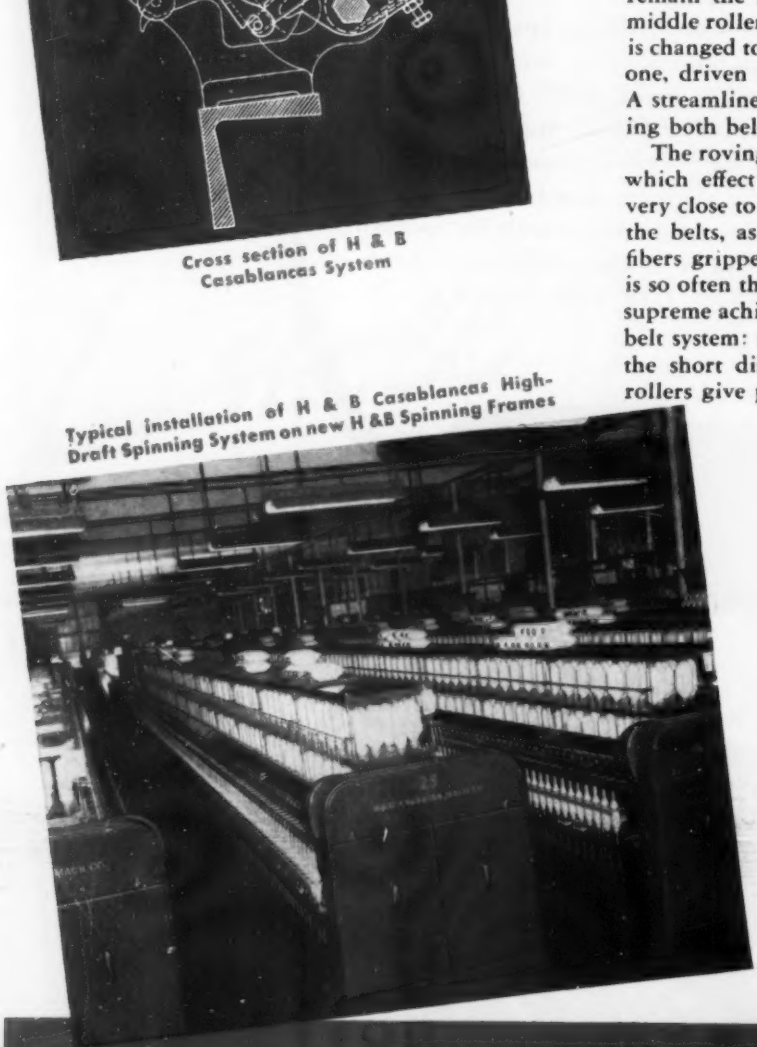


Cross section of H & B Casablancas System

The H & B Casablancas High-Draft System consists essentially of two endless belts between which the roving is held and carried forward, a cradle which guides the belts and rests on the middle drive rolls, and the tensor which holds the belts from inside and standardizes the distance separating the front rollers from the delivery nip of the belts. The system can be applied to any type of ring frame for cotton spinning. The back and front rollers remain the same as in the ordinary system. A fluted bottom middle roller replaces the previous one and the top middle roller is changed to fit into the cradle. The lower belt is the propelling one, driven by the fluted roller, and it moves the upper belt. A streamlined saddle imposes pressure on the rollers, compressing both belts where they pass between the middle rollers.

The roving passes between back rollers and is gripped by belts which effect some break draft and carry the roving through, very close to the front rollers. The gentle, but firm, retention of the belts, as governed here by the tensor, permits only those fibers gripped by the front rollers to pass through, and not, as is so often the case with the usual systems, all fibres. This is the supreme achievement of high-drafting as exemplified by the two belt system: the steady, flexible control exerted by the belts and the short distance between delivery point of belts and front rollers give practically complete control.

Typical installation of H & B Casablancas High-Draft Spinning System on new H &B Spinning Frames



HERE'S WHY

H & B Casablancas High-Draft Spinning gives you all the advantages of any high draft spinning system including:—

1. A greatly increased output per dollar of machinery investment.
2. Greatly reduced operating costs because of smaller overhead on machinery and fewer operators required.

Special advantages are as follows:—

3. It will spin better yarn from a given grade of cotton than will a conventional system, or the same quality of varn from a poorer grade of stock.
4. It is comparatively simple and inexpensive to maintain.
5. Repair costs are relatively low.

SEND FOR THE H & B CASABLANCAS CATALOG

H&B AMERICAN

Builders of Modern

FACTORY, EXECUTIVE OFFICES AND EXPORT

High-Draft Spinning System

AUTOMATIC SPRING WEIGHTING

Perhaps the most outstanding feature of the H & B Casablancas High-Draft System is its Automatic Spring Weighting. After years of bar weights or cumbersome weight-levers and fulcrums, here is a simple, clean and efficient device which makes use of a spring to achieve automatic weighting. There is absolutely nothing on the roller beam,—no weights or weight wires, no lever screws, no adjusting,—and cleaning is greatly facilitated. The automatic levers of rustproof electroplated steel are held by a hexagon bar close beneath middle and back rollers. They cannot jam or become in any way inoperative. By lifting the streamlined saddle at the back, the pressure of the spring is relieved and the rolls are "unweighted". A push down at the front regains roller weighting. A tremendous advantage of this method, in addition to the clean roller beam, elimination of dirt and encumbrances, and consequent ease of piecing up, is the control of undue variations it affords. With the old method a slight change of leverage increased weight at stirrup in a ratio of 10 to 1, i.e., 10 lbs. at the lever was increased to 100 lbs. at the stirrup. With the H & B Casablancas Automatic Weighting method any variations in spring tension, and these are much less likely to be accidentally incurred, are divided by 2.72 at the stirrup, i.e., the same 10 lbs. at this lever is 3.7 lbs. on the stirrup, and any increase is proportionately reduced.

Attention is directed to the small holes in the spring lever and the spring holder. When the weighting system is new, these two holes should line up, indicating that the system is in correct operating position. When parts become worn, as for instance the saddle, the wear will be indicated by the fact that the two holes no longer line up. This serves as a warning that parts should be replaced, although the spring lever is still effective when the holes are as much as 1/8" out of line.

This weighting method also has the decided advantage of a saving in cost due to the vast difference in the total weight of an ordinary machine and one equipped with H & B Casablancas Automatic Spring Weighting Levers. The weight reduction amounts to about ONE TON for one ring frame of 400 spindles.

Saddle, stirrup, lever and spring in running position
2 Holes lined up
Spring up
Saddle, stirrup, lever and spring in release position
Spring down

Automatic Spring Weighting Method

H & B SPINNING FRAME

We recommend that the H & B Casablancas High-Draft Spinning System be installed on new H & B Spinning Frames, when practicable, although it can be used on any standard make of frame. The excellent appearance of this frame, its sturdy construction and high quality workmanship make it particularly suitable for the Casablancas system.

Section of H & B Spinning Frame

MACHINE CO.

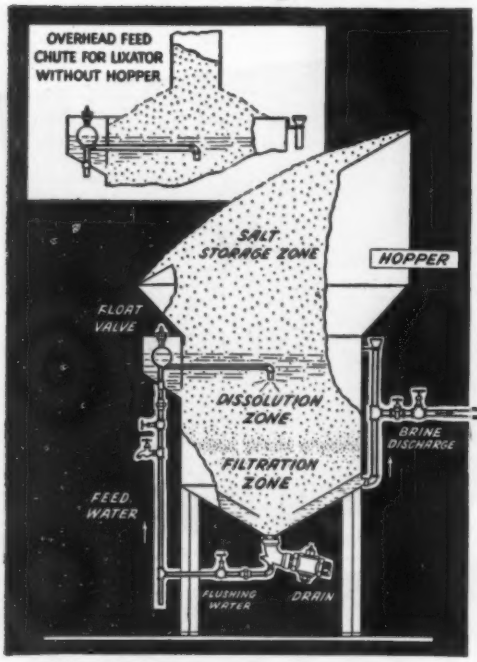
Textile Machinery

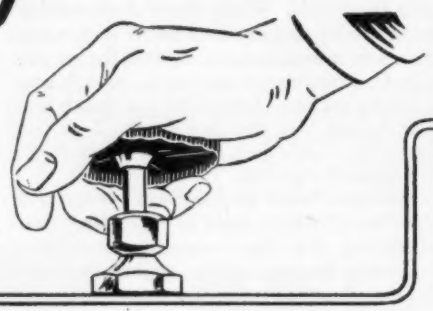
DIVISION PAWTUCKET, RHODE ISLAND, U. S. A.

BRANCH OFFICES
ATLANTA, GA.
815 CITIZENS AND SOUTHERN NATIONAL BANK BUILDING
CHARLOTTE, N. C.
1201 JOHNSTON BUILDING

Why HAUL SALT MEASURE SALT STIR SALT?

just Turn it on!





Dyeing Machines

Dyeing Vats

Zeolite Water Softeners

HOW THE LIXATOR WORKS

In the dissolution zone—Flowing through a bed of Sterling Rock Salt which is continuously replenished by gravity feed, water dissolves salt to form 100% saturated brine. **In the filtration zone**—Through use of the self-filtration principle **originated by International,** the saturated brine is thoroughly filtered through a bed of undissolved rock salt. The rock salt itself filters the brine. Nothing else is needed.

WHAT THE LIXATOR PROVIDES

- ✓ **Chemical and bacterial purity to meet the most exacting standards for brine**
- ✓ **Unvarying salt content of 2.65 pounds per gallon of brine**
- ✓ **Crystal-clear brine**
- ✓ **Continuous supply of brine**
- ✓ **Automatic salt and water feed to Lixator**
- ✓ **Inexpensive, rapid distribution of brine to points of use by pump and piping**

YOU CAN ELIMINATE shoveling salt from storage, hauling salt around the plant, and laborious hand-stirring of salt and water . . . with the Lixate Process for Making Brine. This exclusive International development also stops waste of salt through spilling. It saves valuable time and labor, and assures accurate salt measurement.

For the Lixator *automatically* produces 100% saturated, free-flowing, crystal-clear brine which may be piped to as many points in your plant as you wish—any distance away—by gravity or pump.

You simply turn a valve for self-filtered brine that meets the most exacting chemical and bacterial standards for every brine need. Lixate brine is quickly and accurately diluted volumetrically to any desired strength.

Many Lixate users report savings of as high as 20%. Why not investigate the Lixate Process for your plant?

Completely flexible, a Lixate installation can be made to supply any needed brine requirement. No costly investment is required. The Lixator pays for itself out of savings. See how others have saved—write now for your copy of "The Lixate Process for Making Brine."

INTERNATIONAL SALT CO., INC., Dept. TI-10, Scranton, Pa.

*Name*_____

*Firm*_____

*Street*_____

*City*_____ *State*_____

The LIXATE *Process*

Reg. U. S. Pat. Off.

for making brine

INTERNATIONAL SALT COMPANY, INC

Scranton, Pa.

Make Sure You Test Your Finish at the Start!

After Your Fabric Is in the Consumer's Hands It's too Late

Finishes and special treatments are the big news in textiles. The new fabrics are wrinkle-resistant. Or water-repellent. Or shrink-resistant. Or fast color. Or washable. Or mildew resistant. Or flame-proof. Or a dozen and one other things.

That's what their labels say . . . that's what the consumer expects to get!

To be on the safe side . . . to avoid complaints, returns, consumer dissatisfaction . . . finishes should be tested *before* they are labelled . . . before they are distributed in volume . . . before the consumer buys them. Finishes should be tested regularly . . . during their formulation . . . during their experimental stage . . . after they are rated as perfected. They should be tested regularly *after* they are on the market . . . as a check . . . as quality insurance . . . as a guarantee of continued consumer satisfaction.

We have the facilities for making every conceivable type of test on finishes and fabrics . . . as well as a program of quality control of the fabric after it has been finished.

We invite inquiries from chemical manufacturers, mills, dyers and finishers, and converters. A letter or telephone call will place at your disposal one of our technicians to discuss your problems and needs.

Member of American Council of Commercial Laboratories

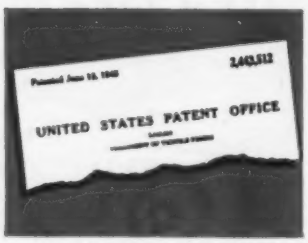
UNITED STATES TESTING COMPANY, INC.

HOBOKEN NEW JERSEY

PHILADELPHIA, PA. • BOSTON, MASS. • WOONSOCKET, R. I. • CHICAGO, ILL. • NEW YORK, N. Y. • LOS ANGELES, CAL.

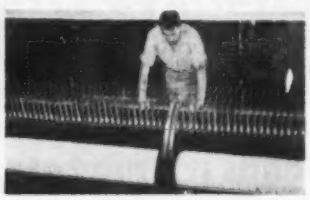
FOR YOUR INFORMATION

MILLS GET 10%-30% MORE YARN STRENGTH WITH SYTON IN WOOLEN, WORSTED SPINNING



SYTON: INVENTED BY MONSANTO

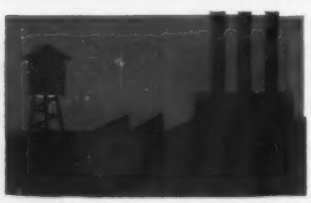
Monsanto research *originated* Syton. Monsanto technicians first recognized Syton's possibilities for better, faster spinning at lower costs. Now, the application of silica sols to any textile fiber as an aid to textile spinning is covered by U. S. Patent 2,443,512 issued to Monsanto.



Mulespinning, Lowell Textile Institute

PROVED IN MILL TRIALS

Monsanto was first in the "pilot plant" development of Syton for textile spinning. Here at Lowell Textile Institute, details of Syton application were successfully worked out on a small scale. Then a long series of mill trials was run. Now, Monsanto technicians are ready to use these lessons, and hundreds of others learned in mills now using Syton, to provide better spinning in *your plant*.



PROVED AGAIN IN SALES TO MILLS

Success in mill trials is confirmed by sales. Thirty-three more mills in one month means a rate of better than one a day! That's the latest sales report on this Monsanto pioneered product which is quickly becoming standard in the textile industry. More and more mill customers are the measure of Syton's practical success. It's delivering improved spinning in other plants now . . . just as it can in yours.

Practical results in more and more mills prove that Monsanto's Syton delivers from 10% to 30% added tensile strength. Syton's silica particles, evenly applied at the gill box or picker, control the rate that the fibers slide by one another. This controlled lubrication during drawing and spinning accounts for these typical mill reports:

- **"A 20% to 30% increase in tensile strength with Syton."**
- **"With Syton, we are obtaining a 29% increase in breaking strength."**
- **"Tensile strength of Sytonized yarns shows an increase of 25%."**
- **"A general production increase was obtained in all operations. Picking, carding, spinning, dressing and weaving have improved through use of Syton."**
- **"We are getting a consistent 15% increase in strength with a corresponding increase in production due to higher speeds."**
- **"Syton is providing very good results for us. The worsted yarn is 17% stronger, spins better, makes a better fabric and the finished fabric is 6% stronger."**

SYTON delivers these advantages:

Syton's advantages stem from increased yarn strength in woolens *and* worsteds. Check them . . . and *get* them in your yarns with Syton.

FASTER PRODUCTION:

Because of increased yarn strength, the amount of twist can be reduced and production thereby speeded.

LOFTIER YARNS:

Less twist means loftier yarns, with tensile strength equal or better than the strength of untreated yarns of higher twist.

FINER YARNS WITH ALL GRADES:

Higher counts—closer to limit spin—for all grades of stock can be attained with Syton-treated yarns.

FEWER ENDS DOWN:

Reductions in ends down vary from 25% to 50% depending on the grade of wool.

BETTER SPINNING EFFICIENCY:

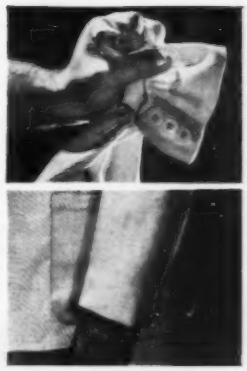
Syton produces more uniform yarn with less beard and thin spots, reduced fly waste, and better drafting.

For information on Syton, address 1 on the coupon.

Resloom, Syton, Sted: Reg. U. S. Pat. Off.

RESLOOM for wrinkle-resistant cotton

Another wrinkle-resistant Resloom-treated cotton on the market. This time it's the new Reeveweave, all-cotton fabric suiting by the famous Reeves Bros., Inc. With lasting wrinkle-resistance provided by Resloom, Reeves Brothers are joining the front-runners for next year's summer suiting sales competition. A feature, perhaps, to put up *your* sleeve when you're thinking of future sales.



RESLOOM for washable wool

And we *mean* washable. Bloch-Heller starts another season with Resloom-treated sports shirts of North Star's Nocturne fabric. And understandably so. They sold tens of thousands last season and their returns were less than .0004%—less than one in every 2,222! And Bloch-Heller's label read simply: "Treated with Resloom for washability. Wash or dry clean."

For information address 2 on the coupon.

Foamless STED Cleans Better

Textile cleaning *improved* because foam is eliminated! That's the result with Sted, Monsanto's non-sudsing detergent which succeeds at the toughest textile cleaning jobs, including wool scouring.

Here's why foam is a hindrance rather than a help in textile cleaning:

1. **Foam cushions mechanical action, delays results.**
2. **Foam often overflows on to mill floors, making the cleaning operation more difficult for personnel.**
3. **Foam is more difficult to rinse as it tends to redeposit scum it has carried off.**

The reasons *against* foam are the reasons *for* Sted. Maximum mechanical action, no overflows, ease in rinsing. Sted is a scientifically built, non-ionic detergent and, as such, it rinses just as well in cool water and hard water. This means mill savings: In fuel to heat water for cleaning, in the amount of detergent necessary, and in the amount of water necessary. Multiply these savings . . . plus the gains in cleaning time, and you have the reasons for Sted's success.

For information, address 3 on the coupon.

MONSANTO
CHEMICALS — PLASTICS

SERVING INDUSTRY . . . WHICH SERVES MANKIND

MONSANTO CHEMICAL COMPANY, TEXTILE CHEMICALS DEPARTMENT,
Desk No. TIT 10, 140 Federal Street, Boston 10, Mass.

Please send me information as checked below:

☐ *No. 1;* ☐ *No. 2;* ☐ *No. 3*

Name _____ Title _____

Company _____

Address _____

City _____ State _____

The specially designed face block on Dayton Thorobred Loop Pickers is built to withstand continuous shuttle poundings on today's fastest looms . . . to provide better, more efficient service, at the lowest possible cost.

Wear of lay-in strap is eliminated with Dayton Pickers. Special, molded-in-one-piece construction includes a flared bottom for easy application. Too, a specially patented symmetrical loop construction anchors the picker onto the stick and holds it in the correct shuttle contact position indefinitely. If you aren't using Dayton Pickers, it will pay you to get complete information. Write today to The Dayton Rubber Company, *Textile Division, Woodside Building, Greenville, South Carolina.*

REASONS WHY YOU SHOULD STANDARDIZE ON DAYTON PICKERS

- Loom can be boxed the same at all times.
- Keep their shape.
- Easy to install—fit the stick.
- Hanging fillings eliminated.
- Jerked-in fillings are reduced to a minimum.
- Cut picker costs 50%.
- Built to stand pounding of high-speed loom.
- "Stay put" on stick.
- All pickers uniform in size.

Dayton Rubber

THE MARK OF TECHNICAL EXCELLENCE IN NATURAL AND SYNTHETIC RUBBER

SHORTS and REMNANTS

by M. L. D.

Who's Kidding Whom?

Ye (S & R) ed called on a Rhode Island textile paint company recently to get acquainted and had the amusing, and at the same time discourteous treatment, of everyone including an assistant's assistant being too busy to see him. He hasn't decided yet whether he was seen approaching and was thought to be a Dixiecrat, or if the assistant's assistant needed an assistant . . . the telephone operator was nice, though.

◆

Spinning Frame

"We are particularly interested in obtaining a copy of the article in your May issue in which Forstmann's new spinning frame is termed the 'universal spinner'."

"International Wool Secretariat"
New York City

◆

ES Knitting Machine

"I would appreciate it very much if you could send me a copy of the articles on the Model ES Knitting machine."

JAMES G. CAMPBELL
Piedmont Hosiery Mills, Inc.
Hickory, N. C.

◆

A Natural Interest

"I am interested in the article 'The American-Made Swiss Weaving Machine' which appeared in your June issue."

E. A. PERNET
Vice Consul
Consulate General of Switzerland
New York City

◆

Ups and Downs

The recent wage increase in face of a slow market has put the industry in a ridiculous position, with jokes bouncing right and left concerning the whole affair. Mills running three days a week contend that with the increased cost, three days per week is all that they can stand. Others jestingly say it would have been better to raise wages a hundred per cent to satisfy everybody, and then shut down completely, which would cost the mills no more money and would satisfy the unions.

◆

He's Got Something

To "Old-Timer" came a letter saying, "In the May issue you wrote, in part, that you formulated a system of loom fixing that enabled you to have more spare time during your working hours. I would like to know what this system consisted of."

NAME WITHHELD

◆

About Testing Equipment

"We should appreciate receiving from you, if you have copies available, any information which might have appeared in your magazine recently relative to the type of testing equipment recommended for use in a spinning mill. We are interested here in testing equipment which could be adapted to the testing of carded yarns of counts ranging from 16/2 to 40/2. In addition, we should like to receive any material you might have available on proper air conditioning of testing laboratories."

C. H. SWAN, JR.
Craftspun Yarns, Inc.
Kings Mountain, N. C.

◆

Hot-Air Slasher

"We are interested in securing a reprint of the article 'Progress with Hot-Air Slasher' which appeared in the December, 1947 issue."

CARLYLE HARMON
Director of Research
Chicopee Mfg. Corp.
Chicopee Falls, Mass.

(Several mills have shown interest in this feature article and we regret there are no reprints available. Arrangements can be made for photostatic copies.)

West Coast Knitter

"I have read with interest the article in your August issue relative to circular hosiery knitting machines . . . and also advise me whether any other hosiery machine manufacturer is producing a machine of about 18 gauge suitable for production of men's wool hose."

C. L. BURR
Los Angeles, Cal.

◆

The Long and Short of It

Since our August issue has been off the press, the office has been flooded with requests for reprints and extra copies of the article "Ramie Today," prepared by Contributors Coss and Taylor of Johns-Manville and Georgia Tech.

'Twas a good article, selah! And it was based on up-to-date information and tests —not on quoted data that could be traced back to original textbooks written years ago.

But the point of this dissertation is that the article ran over 10 pages.

Our editors have the idea that when a story is told in TEXTILE INDUSTRIES, the complete story should appear instead of just scratching the surface. More than one issue may be required, but they stick to it until the reader has the story.

The business department is in complete agreement with this policy; and we'd like to say that the general rule is not to continue an article from the front of the book to the back. Engineers, textile operating men, and management like to "read right through" instead of jumping all over the place, turning back 60 pages to look at the illustration, and repeating the process—they get their exercise at golf; not while reading.

Maybe we'd like to argue with the editors on occasion, but on their policy of telling-the-story we have to keep quiet. Other types of long articles that have registered are our reports of discussion meetings and the four and five page descriptions of technical equipment and processes. To be more specific: Ben Crawford's series on "Draper Loom Fixing" (19 articles and then in book form); Bob Joerger's articles on dyeing (two series); Jesse Stribling's series on "Winding Machines" (13th installment in this issue and still going strong); Paul Seydel's "Cotton Warp Sizing" (showing no sign of weakening and to be in book form);—

—and in this issue we invite your attention to "Waste Reduction and Control," which we predict will be well received by all branches of the industry for its principles, and by the cotton and spun rayon divisions specifically.

Reprints of "Waste" are available. Write us of your needs.—M. L. D.

Many first-time visitors to our offices expect the editor to have long whiskers, like the cartoon at the top of Old-Timer's page. You've seen the name MILTON C. MAY listed among our associate editors for well over a year now, and he doesn't have whiskers either, as the above photo shows—since being with us he hasn't had time to grow them. Milton is a textile graduate of N. C. State College, and has had mill experience. His studies at State were interrupted by the war, but afterward he completed them, and went a bit further before joining TI. Normally, he will be found among the mills somewhere in the southern states, but he also finds time to call in southern Canada. You've seen his by-line and his pic—don't be surprised to see him most any day.

Some of the fellows who make things click at Southern States Equipment Co., Hampton, Ga., shown during their open house August 21, which included a plant inspection, recreational activities and a barbecue. Left to right: "Cam" Mitchell, vice-president; Bert Anderson, engineer; "Woody" Walter, sales manager mechanical division; Graham Mitchell, purchasing agent; J. E. Morton, production engineer.

Announcing

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Textile Industries

OCTOBER
1948

The Investor

TIME was when the Investor was a necessary and honored figure in the American scheme of life, because America, as we know it today, was built by investors. You can look around this country, and practically every consequential thing on which your eye will light was put there through the efforts of some ambitious and hopeful investor.

The bait which tempted the investor was, of course, the hope of profit, and in those days profit was considered a very first-class and legitimate thing. You could travel the length and breadth of America in those times and hardly find a person who would decry a profit, and had anyone done so, he would have been considered at least queer, and probably much worse.

Not realizing that profits were immoral, our ancestors blithely went ahead building railroads, factories, steel mills, ships, and all kinds of other things, which oddly enough contributed to the public welfare, even though they incidentally did sometimes yield a profit to the original investor, and occasionally a very handsome one.

During the past few years, however, we have adopted a much more enlightened view on such matters, and our government has taken steps to see that the incentive to profits is suitably reduced, so that while this dreadful bourgeois habit of making other people prosperous while helping yourself can not be completely eliminated, it has at least been circumscribed. As an illustration of the progress made in this direction, we would like to pry for a few minutes into the life of an old-fashioned investor in these new-fangled times.

THE MAN that we have in mind was in possession of some money which he hoped could be invested profitably, and so he diligently considered the various possibilities of investment now open to him. A patriotic action, so he thought, would be to put his money into government bonds, which the government highly recommended as a safe and profitable investment. Unhappily, however, this investor, like so many others of his breed, was a thrifty, prudent, and industrious gentleman, who had a good job at a handsome salary. That is, it looked handsome before taxes. When, therefore, this investor considered the feasibility of buying government bonds, he noted that the interest return on these bonds averaged about two and one-fourth to two and one-half per cent per annum at the very best, and since the interest from them would be superimposed on his other already overtaxed income, the same government which made sprightly promises in its prospectus describing the advantages of these bonds, would, through another of its agencies, relieve him of about three-fourths of the interest that one agency paid him.

While such a shrewd financial practice appealed to him as an experienced business man, it left little appeal as an investor, because, after all, if you invest $100,000 and only have about $600 a year return on it, your friends might be excused for considering you slightly dopey, to say the least.

If the net income from the investment of half a million dollars is a sum which any labor leader will passionately declare could not support a man and his family, then surely such an investment is pretty small potatoes. Our friend therefore decided to pass up government bonds; but upon investigating other bonds, so-called high grade stocks, and mortgages, he found that the same situation existed in general with respect to the net income from such investments. Though there might be a trifle more left after the government's inroads through taxation, there was at the same time an element of risk not present in the government bonds, because, after all, the government owns the printing presses and can always be depended upon to redeem its bonds with money.

Our investor, therefore, after getting all of this discouraging news, decided that the only practical plan was to build a factory of some sort to make something on which there might be enough profit to yield a little net return in spite of all the government could do about it.

In the pursuit of this idea, this gentleman looked around the country for a good town in which to invest his money. He finally found a place that seemed to be ideal. It was a town which had been substantial in an earlier agricultural period, but it was supported entirely by traffic with farmers, and to be truthful, it had seen better days. This place had no manufacturing plant of any sort and its people, in general, and the Chamber of Commerce, in particular, were keenly anxious to secure one which would establish a regular payroll in the town.

The investor, having talked things over with the local leading

SLIX

● Weaving performance tests on SLIX treated warps prove a material reduction in both warp and filling stops.

The report at the right was submitted by a leading Southern cotton mill.

LOOM STOP ANALYSIS

	Slix	Regular
Warp:		
Weak Thread	22	45
Knots	17	36
Spinner's Gouts	26	31
Lint Buttons	57	117
Unclassified	18	27
	140	256
Wild Yarn, Crossed Ends, etc.	81	75
Total	221	331
Filling:		
Weak Thread	11	25
Gouts	13	16
Unclassified	11	20
	35	61
All Other	29	33
Total	64	94

Conclusions: 46% reduction in warp stops, 40% in filling stops chargeable to sizing.

● **Results of these tests and other technical information regarding the application of SLIX, appear in illustrated bulletin, "Developments in Warp Sizing", available upon request.**

SOUTHERN SIZING COMPANY

INCORPORATED 1930

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POST OFFICE BOX 128
EAST POINT, GEORGIA

citizens, decided that this was a good place to build his factory, and it never occurred to him that he was not going to be a public benefactor in bringing a nice payroll into this place which needed one. Having inquired as to the earning capacities of the citizens whom he would employ, it was obvious that he could afford to pay them twice as much as they had ever made before and still be in a competitive position with other manufacturers of the same sort. For doubling the incomes of a great many persons and making these incomes steady, he thought that he would be entitled to much gratitude and loyal cooperation from these people. This will show you how gullible and how hopelessly old-fashioned this chap must have been.

Anyway, he went ahead and built his factory. We will not dwell at length on the disillusioning experiences which accompanied the building and equipping of this plant. It would take too long, and anyhow our readers will understand only too well most of the things that we would catalog. Suffice it to say that finally the gentleman had his factory completed, and it only cost him about twice as much as the best estimates of the architects, engineers, and builders before he started the work.

Now to show you the confused and hopelessly archaic thinking of which this poor investor was guilty, after he had bought the land with his own money; put up the buildings, with his money; equipped them with lighting, heating, fireproofing, air conditioning, and every modern accessory for the comfort and health of his employees, all with his own money; had installed the most modern and expensive machinery, with his money, of course, and was now in the possession of a thoroughly modern plant, he foolishly conceived the idea that the people who, in his inexperience he had assumed were to be benefited by this plant, would be happy to go to work in it at double their accustomed wages, and to permit him to get a reasonable share in the profits of the plant which he alone had had any part in bringing into being.

Everything so far, he had done, and now he asked those townsfolk who were looking for jobs to come into this nice modern plant and learn a few simple, easy manual tricks which he would teach them at his own expense in order that the marvelous new machinery could become productive. It took very little intelligence to learn these simple little manufacturing tricks; the place was comfortable to work in—being well heated in winter and air conditioned in summer. It was in all respects infinitely superior to the homes of the prospective workmen or to any places they had ever been before. It therefore seemed reasonable to this poor benighted man that if these folks were so much better off than they had ever been, that they should be grateful.

You can easily see that his thinking was characterized by many pre-Marxian, pre-New Deal, and pre-crackpot fallacies. The idea that people should ever be grateful for anything you do for them is strictly old-fashioned stuff.

This investor very shortly discovered that in sinking a large sum of money into this plant he had done no favor to the community where the money was spent, and in fact the local bricklayers, carpenters, etc., who had not been eating very regularly before this plant was built, had denounced the investor in no uncertain terms for his anti-social ideas in offering them steady work at good wages, but under conditions which violated some of the most sacred principles of the rackets with which these workmen were affiliated.

This investor also discovered that while he was diligently getting his plant constructed and ready to operate, his activities had attracted the attention of the satraps of other rackets in nearby communities. These parties were horrified at the dangerous and subversive possibility of having a factory full of contented, well-paid people in their neighborhood. Such a thing threatened the very existence of their livelihood, and they had consequently dispatched some of their cleverest spellbinders to work upon the simple-minded folk who were shortly to be graduated from common laborers into skilled workmen.

Consequently, when our investor was ready to begin employing people, he found that most of these prospective employees were now enthusiastic followers of the labor satrap who had been delegated to handle their affairs. To these unthinking people, he had explained that in putting up this factory and offering to double their wages, this investor was not aiming at doing them any good, but was in fact exploiting them. He finally got these folks to understand that an employer is exploiting labor unless his relations with his employees are handled entirely through the agency of certain racketeers who have established themselves for this purpose.

A fair number of these townspeople were too stupid to understand the enlightened attitude of this labor racketeer, and they tried to go to work anyhow, so, a strike was called, even before the plant got in operation, and the labor leaders who had taken over the management of the affairs of the prospective employees of the plant prudently saw to it that nobody was allowed to accept employment on any such degrading terms as this employer offered, which consisted of good pay for easy work.

These labor leaders explained to their people that they couldn't just simply work in a plant and collect their wages, but they must have a contract, with featherbedding, a closed shop, a check-off, and other necessary provisions. Seeing the faction which poohpoohed these modern improvements and held to the archaic idea that if a man wanted to work for another man all he had to do was work for him, these labor leaders imported some people known as goons, whose duty it was to protect the unwary workingman from taking a job.

The last we heard of this, the matter was still undecided; the pickets were still parading around the plant, and the poor investor has sadly realized that he is one of a vanishing species, and that he might as well have put his money into government bonds in the first place, because the government or the racketeers will get it anyhow.

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Apparatus Provides Automatic

Application of Emulsion on Wool

Description of equipment for mixing oil and water in correct percentages and placing on stock in controlled amounts.

Staff Interview

UNIFORM APPLICATION of emulsion to raw stock has long been a problem of the woolen manufacturing industry; this is due to the inadequacy of the method of applying the correct percentages of perfectly blended oil and water at the right temperature to the wool as it passes through the pickers.

Probably the first method of applying emulsion to wool consisted of stacking the material in layers, applying oil to each layer by using some container, such as a water sprinkler, to scatter the fluid over the fibers.

This method proved costly to the manufacturer both in the amount of oil used and training of the operative to do this work. The efficient running of the work at subsequent processes was also affected.

Mill men say that it was not possible to apply a uniform amount of oil to all of the wool fibers by the foregoing system, even with the best and most reliable operatives. Nevertheless, the woolen manufacturers were forced to use this system because nothing better had been developed.

Another method consists of mixing oil and water in a tank and heating this mixture to the desired temperature by steam, either in coils or injected into the oil and water. Such a mixture is then forced to the pickers by means of compressed air and is sprayed on the wool through a series of small opening nozzles.

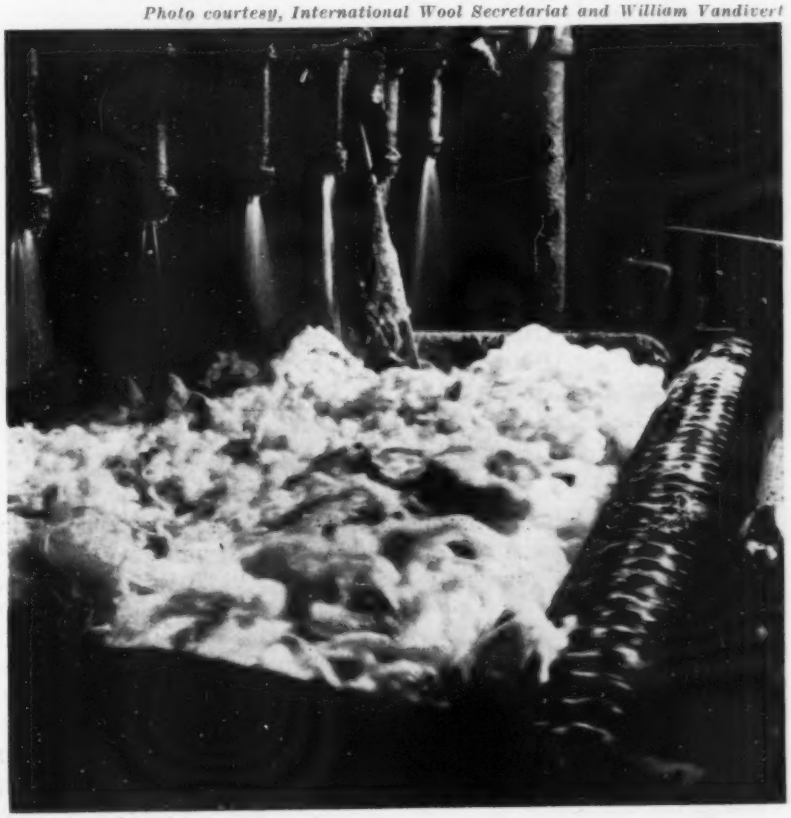
If steam is injected directly, condensation changes the percentage of oil and water in the mixture. Also, a leaking valve affects this percentage.

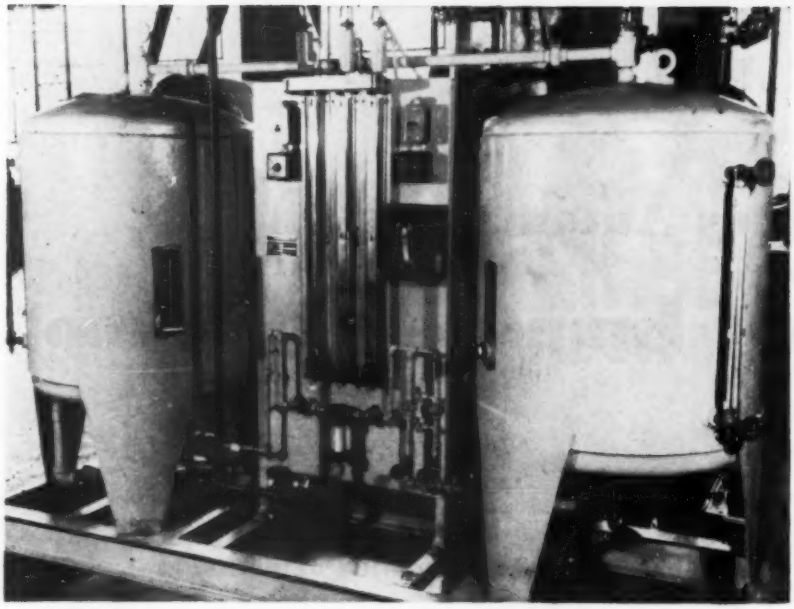
Mixing of the oil and water in a tank and heating it to a desired temperature proved more satisfactory than trying to sprinkle a uniform amount of it over all wool fibers in a stack. For example, obtaining the same penetration in each stack was impossible; some fibers would be wet with oil while others would be dry.

Although the second system (tanks, compressed air, and nozzles) is still in use by most of the

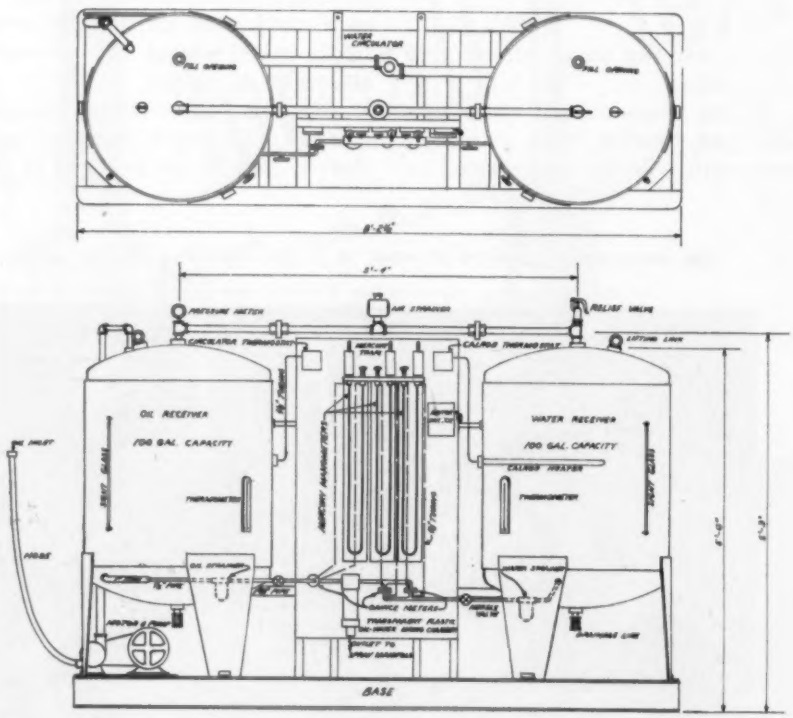
Oil emulsion is sprayed on wool as it goes into the mixing picker.

Photo courtesy, International Wool Secretariat and William Vandivert





Above, general view of apparatus for making emulsion and regulating application of emulsion on stock. Below, drawing showing details of construction and operation.



woolen mills, it has not produced the uniformity at some mills that is desired for good running work and the lowest cost of materials used.

As an illustration, if you mix a drum of fifty gallons and run several hundred pounds of wool from your pickers and then discover at the next process by "feel" that there is not enough oil or water in the mixture, or perhaps too much of each element, it is highly uneconomical to throw this mixture away, and it is also difficult to obtain the correct measurement of either oil or water to add to the solution in order to remedy the defect that has been discovered by "feel" at a subsequent process.

The second method, although a significant improvement over the original system (sprinkling with a water sprinkler), does not produce the uniformity that is needed in order to accomplish the desired result—good running work and a saving in the cost of oil.

Keeping in mind the problems of non-uniformity of amount of emulsion applied to wool and the cost of oil used, woolen manufacturers have been seeking a method of eliminating these undesirable elements.

A New Emulsion Process. Through the joint efforts of Charlottesville (Va.) Woolen Mills and Southern Welding & Machine Co., Charlottesville, Va., a new system for applying the desired amount of emulsion to wool has been developed.

The new system consists of one tank for the water and one tank for the oil, heating the water with a Calrod unit, and circulating it through coils inside of the oil tank in order to heat that fluid. The oil may be heated up to 120 degrees F, but the recommended temperature is 90 degrees F. The room temperature is a good standard to use for heating the oil.

Description and Operation. Oil and water are heated in separate tanks and flow under pressure to a mixing chamber, where they form an emulsion. From the mixing chamber the emulsion flows under pressure to the spray nozzles located over the wool conveyor apron.

By means of needle valve controls, orifice meters, and manometers, any predetermined quantity of the emulsion (and the percentages of the oil and water therein) can be delivered to the wool. Needle valves control the flow of oil and water to the mixing chamber, and manometers indicate the rates of flow directly in gallons per hour.

Charts Indicate Settings. Adequate charts indicate manometer settings for any predetermined quantity of oil per pound of wool, and any predetermined percentage mixture of the oil-water emulsion.

If it should become necessary, during operation, to vary the per-

centages of oil and water in the emulsion, reference to the nomograph chart will indicate the new manometer settings for the revised percentages. New manometer settings are accomplished by adjustment of the needle valves, and any adjustment can be made without interrupting flow of the emulsion.

Oil Is Filtered. The oil is filtered and delivered to the oil tank by a motor driven vane-type pressure pump, which enables the oil receiver to be filled against inside pressure (about 60 psi).

Water for mixing with the oil is delivered to the water receiver or tank. (This presupposes the availability of a water supply operating under adequate pressure.)

Clean, compressed air at 60 to 70 psi is delivered to both tanks through a pressure regulator. (This presupposes the availability of air lines operating at the required pressure.) Pressure in the two receivers is maintained at approximately 60 psi.

Water in the water tank is heated by a submerged Calrod element, thermostatically controlled. A heating coil is located in the oil receiver, and hot water from the water receiver is circulated through this coil to maintain the oil at 90 to 100 degrees F, which temperature insures complete emulsification when the oil is

(*Continued on page* 210)

HOW TO USE NOMOGRAPH CHART

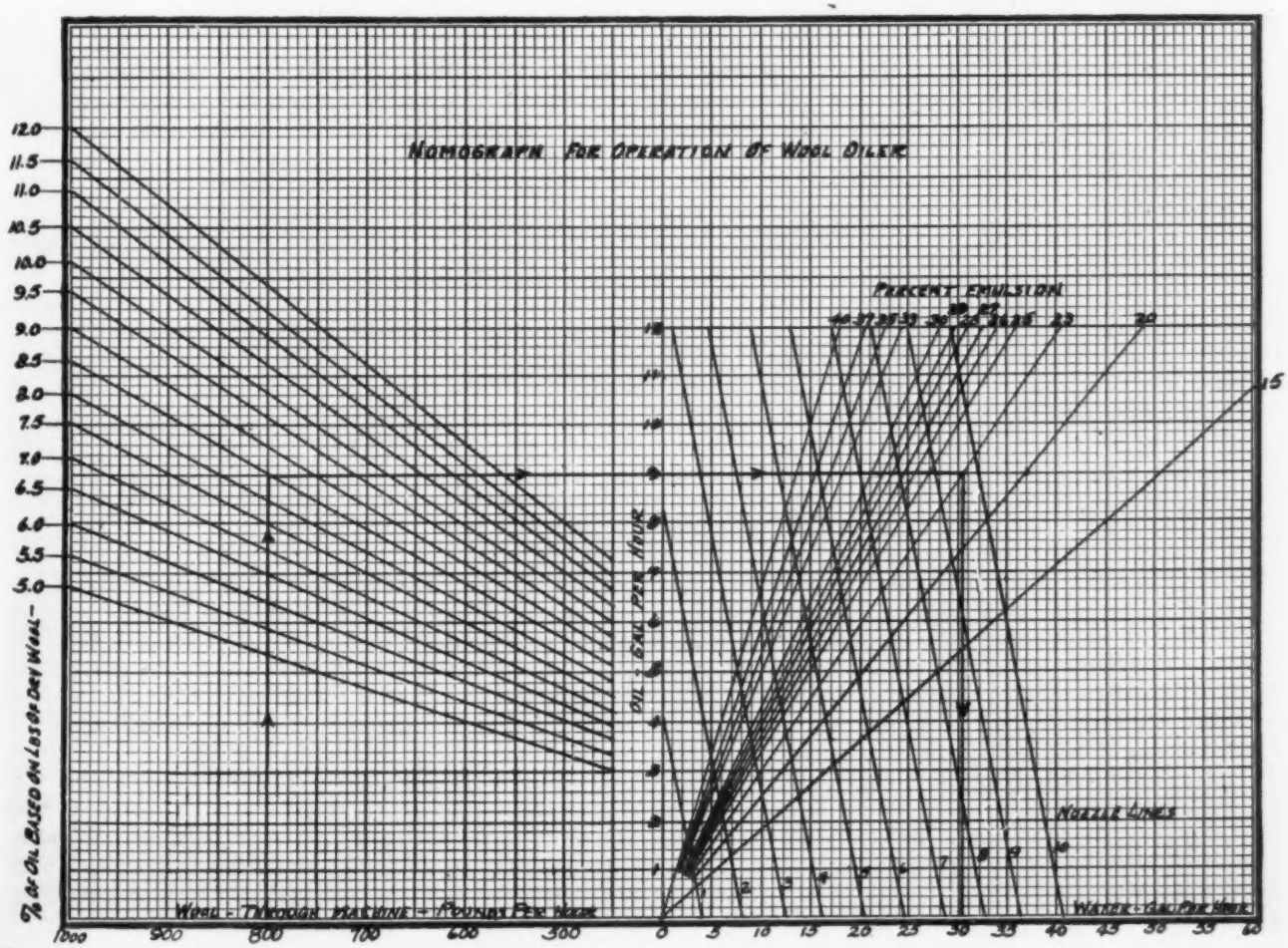
Operational control charts are supplied with each installation. By checking the accompanying nomograph chart with the following illustration, operation and control of the system may be understood:

Assume that 800 lbs. of dry wool are to be treated per hour with 8.5% of oil by weight, and that a 23% emulsion is desired.

Follow the line upward from 800 lbs. of wool to intersect the 8.5% oil line, then right horizontally to intersect the 23% emulsion line, and vertically downward to the gallons of water per hour coordinate.

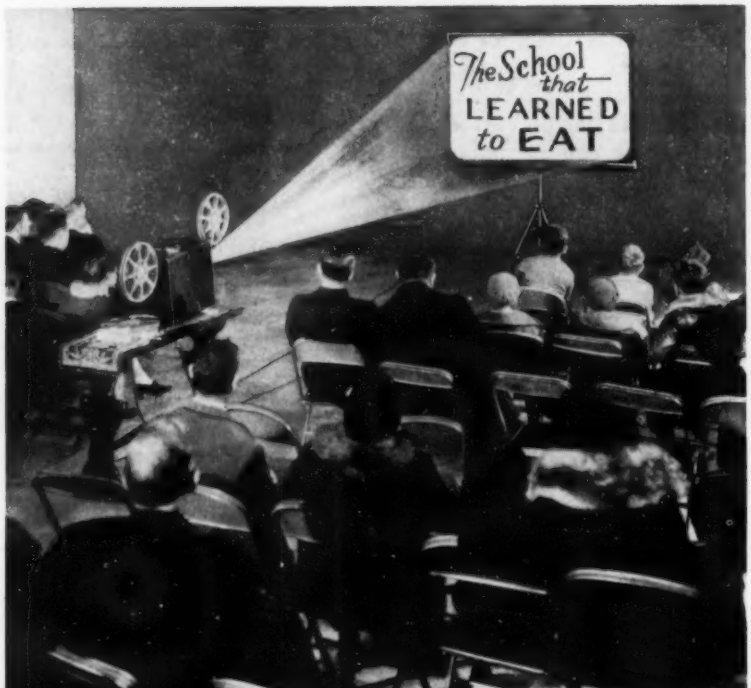
Note that the horizontal line crosses the "oil—gallons per hour" line at nine gallons, and that the "water—gallons per hour" line is intersected at thirty gallons. Thus for the required oil delivery, and percentage of emulsion, the oil manometer is set to read 9 gallons per hour and the water manometer to read thirty gallons per hour.

The 23% emulsion line is intersected between the graph lines which indicate nine and ten nozzles. Thus, either nine or ten spray nozzles can be used for delivery of the required amount of emulsion at the required rate. The operator's choice of either nine or ten nozzles depends on the fineness of spray desired.


NOMOGRAPH FOR OPERATION OF WOOL OILER
PERCENT EMULSION
NOZZLE LINES
OIL - GAL. PER HOUR
% OF OIL BASED ON LBS. OF DRY WOOL
WOOL - THROUGH MACHINE - POUNDS PER HOUR
WATER - GAL. PER HOUR

Nutrition Education Emphasized

With a textile mill community as a "stage," a new movie shows what can be done by communities to improve health and eating habits.



EXCLUSIVE

Program aids and film available to schools and industry for instituting nutrition program.

Staff Prepared

THE FACT that many textile operatives drink their "pop" soon after reaching the job can mean one of two things: (1) they dearly love the national drink; or (2) they are being fed improperly at home and need further nourishment soon after reaching the job.

Industry has known for sometime that a definite corollary exists between hot lunches and worker efficiency, and this knowledge has brought excellent and well-staffed cafeterias to the plants. Even the familiar "dope wagon" has been modernized, and the contents of the rolling lunch counter are more carefully supervised so that employees will be furnished nourishing snacks.

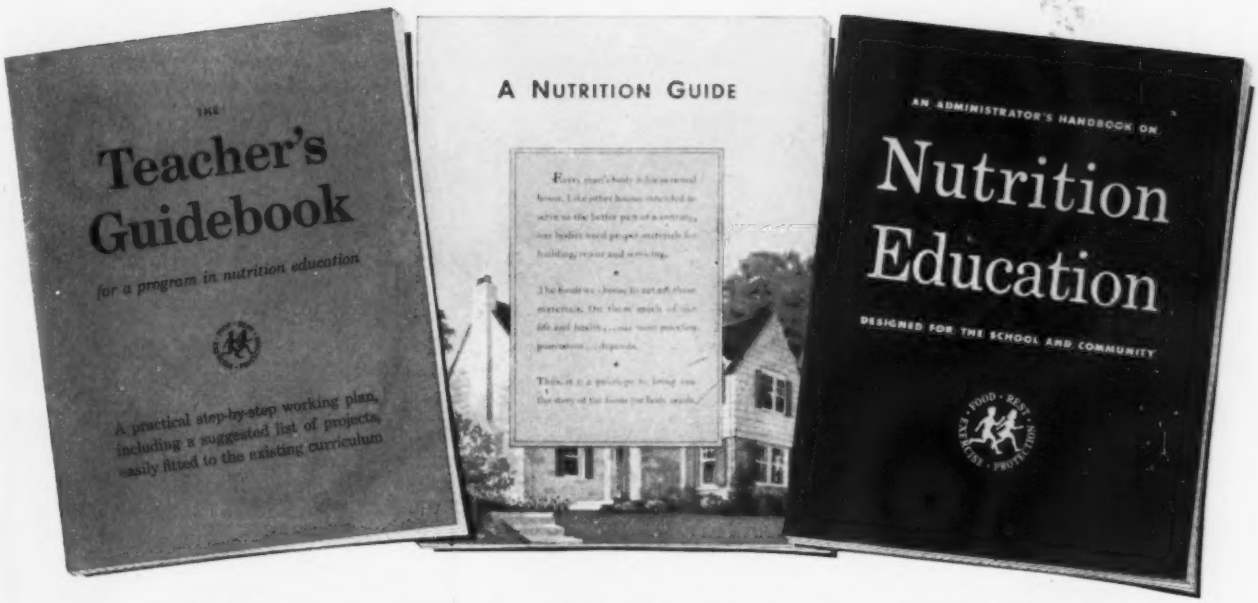
Improving health standards is one of America's pressing national problems. Some people may consider this problem to be that of the government bureau, but since good eating habits or nutrition practices have been proved to influence good health, operative efficiency, and absenteeism, improving health standards via nutrition may well be considered within the scope of industry—from the educational standpoint.

A nutrition project and educational program has recently been completed in a school located in a textile mill community. The school, at East Griffin, Ga., was selected because of the outstanding progress made by the teachers and pupils in that school, and by the parents and the entire community in improving diets and health standards.

Using this school and the textile mill community as the "stage," a 16 mm. sound movie in color has been made to tell the story of "The School That Learned to Eat." This film, prints of which will be distributed to school authorities in all of the forty-eight states, will serve to illustrate to both elementary institutions and to industry what can be done by communities to improve health and eating habits.

The movie also tells how any other community may institute the program.

The entire program and movie were sponsored by General Mills. Inc., Minneapolis, Minnesota. The project was carried out through the cooperation of the state public school and health officials and the University of Georgia. Industrial organizations desiring to put on the nutrition program may secure the film and additional aids from the sponsoring company, and may also receive valuable assistance and guidance from the Red Cross nutrition service.


THE
Teacher's Guidebook
for a program in nutrition education
A practical step-by-step working plan, including a suggested list of projects, easily fitted to the existing curriculum
A NUTRITION GUIDE
AN ADMINISTRATOR'S HANDBOOK ON
Nutrition Education
DESIGNED FOR THE SCHOOL AND COMMUNITY
FOOD · REST · EXERCISE · PROTECTION

Typical of the teaching aids developed for the nutrition education program are these booklets which are available to industrial organizations interested in instituting such a project in their own communities.

Industry in general has a direct stake in the physical well-being of the youth of America. Improved eating means better long-range health and in the end, higher employee efficiency. At the same time, good health contributes to the general level of happiness for all concerned. The nation as a whole, therefore, prospers from good nutrition.

A high waste loss is an unnecessary expense. The examples offered in the accompanying article are based on the cotton textile industry, but the principles may be equally well applied to any branch of the industry.

WASTE

Reduction and Control

By BEN H. CRAWFORD
Southeastern Engineering Company
Consulting Editor "Textile Industries"

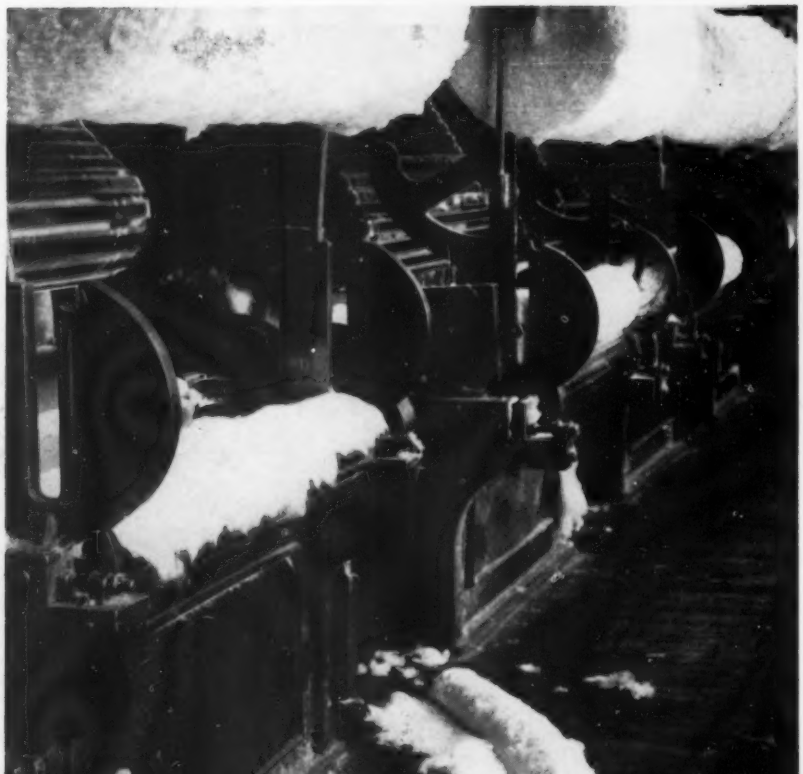
IN THE DAYS of our grandparents and great grandparents, each individual family often grew, carded, spun, and wove the material for its clothing and household needs. In those days, disfiguring an old adage, only the chaff was discarded. Some use was found for everything usable; and great care was exercised by each person to prevent wastage of the raw material utilized in the fabrication of the needed products.

In those days each individual in the family realized acutely the value of each pound of raw material. This awareness of its value, this "cost-consciousness," had been bought and paid for by long hours of toil and sweat at slow, tedious and often heart-breaking hand labor.

All of us are familiar with the growth of the textile industry—expanding and modernizing with advent of steam, electricity, automatic machinery, improved methods, and modern management.

As the industry forced its way out of the kitchen or bedroom, in the home, to its small beginning in sheds and separate buildings, the enterprising capitalist found it necessary to look about among his neighbors for help in order to turn out the number of yards or pounds of goods needed by his customers.

With further expansion and growth in the industry, each owner, of necessity, relinquished some



Too much lap broken out causes unnecessary waste. When the picker tender starts the lap wrong, it is not the fault of the card tender. Rerunning stock damages cotton fibers.

of the duties of personal supervision of the manufacturing processes in his plant, to others on his payroll. And with time, it became increasingly important that the owner devote his talents to the purchase of raw materials, to selling the finished products, to meeting payrolls and, undoubtedly, to the ageless element of cost.

Probably no one will disagree with the statement that mill owners and top management of mills are, and always have been to a high degree, fully cognizant of all the elements of cost involved in operating their mills. Neither is an argument likely to stem from the statement that the *unit cost* of any product is in direct proportion to the *efficient utilization* of the raw material being processed.

At the time our ancestors hired their first "hand" as a means of increasing output, waste must have first become important to these men, who were then laying the foundation for the great modern textile industry of our day.

"Down-the-Line" Waste Education. With the hiring of more help, necessitated by further growth, the owners and management soon learned that they could no longer be satisfied that they, themselves, possessed a knowledge of cost and waste.

They soon found that a knowledge of cost in all its aspects needed to be passed on to, and utilized by, not only all levels of supervision, but all employees as well if a yarn or fabric salable in a competitive market was to be produced.

For a long number of years many mills, realizing the enormous loss accruing from high waste percentages, have made a conscientious effort to reduce and hold waste to a minimum. On the other hand many mills, apparently not realizing the extent of loss due to waste, have made little or no effort to do much about waste other than bemoan the fact that it exists.

During the war years, due to the pressure of striving for ever greater production, management was able to give little attention to waste. In the period of transition following the war, the demand for goods remained relatively firm; practically every mill was in some state of expansion or modernization; the skilled labor market, though eased, in many places was and is not yet to be called plentiful; and with other influencing factors still in a highly unstablized state, a great many mills up to the present have made little progress toward attaining reductions of waste.

Waste Costs to Your Mill. Any industry that utilizes a raw material from which 12% to 20% of

ABOUT THE AUTHOR

THE name, Ben H. Crawford, is not new to the readers of "Textile Industries." He will be remembered as the author of the book, "Draper Loom Fixing," which appeared serially in this magazine, and for his by-line on defense training work and other articles.

A native South Carolinian, Mr. Crawford received his technical textile schooling at Clemson College, went through his early apprenticeship at the Springs Cotton Mills, and then taught textiles at the Alabama Polytechnic Institute.

For several years he was associated with West Point Manufacturing Co., where he specialized in training and waste reduction programs. He then formed his own operating organization, The Southeastern Engineering Company, West Point, Georgia, which specializes in waste reduction and control, and production methods.

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the stock opened is lost from production in the form of waste, has every reason to be concerned with the enormity of such a loss.

Using Middling 15/16" cotton at an average cost of 35c per pound, Mill A making 12% waste would have paid $21.00 for the 60 pounds of waste removed or made per bale in processing. If Mill B using the same grade and staple should, by some stretch of the imagination, remove 20% waste, its material cost for the 100 pounds of waste made would be $35.00 per bale.

Now assume that Mill C removes what is generally conceded to be about an average percentage —15%. Its loss runs to $26.25 per bale. Mill C, being a medium-size mill, uses in the neighborhood of 12,000 bales per year. Its loss per year, based on 35c cotton, amounts to $315,000.00.

The foregoing figures make no allowance for the revenue received by the mill from the sale of waste. The average price per pound or the total return to the mill from the sale of all waste would depend on a number of factors:

Among these could be listed the grade and staple of the raw material used by the mill; the color, cleanliness, and staple of the waste made; the method of classifying, separating, and baling the waste at the mill; the available accumulation of waste held by the mills, the waste dealers, or by the consumers of waste; and, of prime importance, the current demand for waste by the consumer.

Cotton and Waste Markets Do Not Necessarily Parallel. Management, in many instances, holds to the belief that waste prices should follow cotton prices. That is, as cotton goes up, waste should increase in value; and, as cotton drops, the change will be reflected in waste. This is not necessarily true, for with the exception of a few grades, waste is not a substitute for cotton.

The recent cotton and waste market offers a perfect example. Cotton sold at close to the all time high; yet waste, when figured on

In This Article

1. Waste losses in your mill.
2. Factors affecting dollars and cents of waste.
3. Primary waste factors.
4. Calculating cost of departmental waste.
5. Waste reduction when periodically emphasized.
6. Percentages after planned waste reduction program.
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17. Educating employees on waste problems.
18. Report on survey of waste in mills.
19. Actual waste figures cited.
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Factors Affecting the Dollars and Cents Waste Loss in Any Mill

Grade and staple of stock processed.
Percentage of waste made.
Cost of processing up to point where waste is made.
Cost of reprocessing reworkable waste.
Loss of efficiency and quality due to rerunning reworkable waste.
Color, cleanliness, and staple of waste sold.
Method of classifying, separating, and baling waste at mill.
Inventory of waste, or demand for waste by consumer.

FIGURE ROUGHLY COST OF WASTE TO YOU

	Total Lbs. Stock Run Per Year	Total % Salable Waste Made	Pounds Waste	Cost of Raw Material	Estimated Processing Cost of Waste Made	Total Waste Cost	Less Resale Value	Net Loss on Waste
Raw Stock								

Above method of roughly calculating cost of waste does not include cost of rerunning reworkable waste or losses in quality and production from running reprocessed stock.

Damaged or tangled yarn in warp spinning increases waste at spooling, which in turn results in added labor costs in reclaiming usable yarn, or it results in more waste.

the basis of cotton, was at nearly an all time low in value.

The recent low value of waste was in part due, first, to the existing uncertainties in both the domestic and world picture. Second, there was no large scale export market in waste recently as compared with normal times. The domestic consumption of waste in normal times has never been able to make use of all the waste produced by the mills. Third, labor disturbances and strikes have resulted in a cautious attitude on the part of the domestic consumer, who is now confining his buying to spot transactions, whereas in normal times he may buy three to six months ahead of requirements.

These three factors, coupled with the continuing high level of production maintained by the industry, have resulted in an abnormally high accumulation of waste being held by the mills and/or the waste dealers.

Over a period of time, trends in the cotton market may have a psychological effect on the value of waste, but in the final analysis the value of waste is almost wholly dependent upon the supply of waste and the demand for waste.

In the knowledge of present day waste dealers, waste in the years past has ranged in value from a low average of 3c to 5c per pound, to a high average of 10c to 12c per pound.

Dollar Loss to Medium-Size Mill. Our hypothetical Mill C, on the (August) market, would receive roughly 5c per pound on an average for its waste. Fifteen per cent waste loss on 12,000 bales would equal to 900,000 pounds of waste. At 5c per pound average sale price, Mill C would receive $45,000 from the sale of this material. By subtracting $45,000 from $315,000, the price paid for the waste when buying it as cotton, Mill C would suffer a net loss of $270,000 per year from waste.

This $270,000 per year loss does not include several other losses which must be taken into consideration if Mill C is to realize the extent of its total loss!

1. The cost of processing this 900,000 pounds of material through the mill to the various points

where it became waste.

2. The cost of handling this 900,000 pounds of material as waste.

3. The added processing cost of re-running reworkable waste. (The 15% waste being made in Mill C does not include reworkable waste.)

4. The loss of efficiency and quality throughout the mill resulting from re-running waste.

Detailed cost figures and an analysis of poundages and percentages of each waste classification would be required to determine the cost of processing 900,000 pounds of material through the mill to the point where it became waste. To do this is not practical in this article, but estimates are that this cost would easily add several additional cents per pound to the waste loss in Mill C.

This processing cost, along with the cost of collecting and baling waste, added to the cost of reprocessing reworkable waste could offset and possibly exceed the $45,000 which Mill C would receive from sale of waste. To substantiate this statement in some degree, if Mill C made 5.51% reworkable waste, at its current processing

DEPARTMENTAL WASTE LOSS AS CALCULATED BY A MEDIUM-LARGE MILL

Waste Classification	Value of Stock or Stock in Process Based on 35c Cotton (Present Labor Costs)	Price per Lb. for Waste Sold	Loss per Lb.	Lbs. Made per Year	Mill Loss per Year
Bagging	35.00	6.50	28.50	332,915	$ 94,880.77
Ties	35.00	.50	34.50	255,185	88,038.25
Pickings	35.00	5.00	30.00	16,680	5,004.00
O & P Motes	36.22	3.50	32.72	303,525	99,313.38
Dusthouse	36.22	1.00	35.22	57,000	20,075.40
Sweeps	36.22	1.00	35.22	9,585	3,375.48
Card Strips	37.45	16.00	21.45	477,745	102,476.30
Card Fly	37.45	4.50	32.95	172,690	56,901.35
Card Clearer	37.45	6.00	31.45	17,710	5,569.80
Card Sweeps	37.45	2.00	35.45	62,605	22,193.47
Spinning Thread	45.31	10.00	35.31	15,055	5,315.90
Spinning Clearer	45.31	6.00	39.31	13,310	5,232.16
Spinning Sweeps	45.31	2.00	43.31	141,305	61,199.20
Spooler Thread	46.51	10.00	36.51	44,500	16,246.95
Warper Thread	47.01	10.00	37.01	3,770	1,395.28
Slashing Hard	48.29	7.00	41.29	23,945	9,886.89
Slashing Soft	47.01	10.00	37.01	50,510	18,693.75
Draw and Tie-In	49.03	7.00	42.03	32,515	13,666.05
Weaving Soft	42.61	10.00	32.61	140,035	45,665.41
Weaving Hard	49.03	7.00	42.03	32,915	13,834.17
Weave Sweeps	59.68	.20	59.48	114,855	68,315.76
Clean Rags	62.14	7.00	55.14	21,380	11,788.93
Oily Rags	62.14	4.00	58.14	11,380	6,616.33
Brusher Waste	62.14	.25	61.89	16,085	9,955.00
					$785,639.98

Ave. Loss/Lb. of Waste Made = 33.30c

The figures in the above table are those furnished by a southern mill, but the figures have been proportionately changed to prevent possible mill identification. The figures were taken from a medium-large mill on medium-coarse work.

The writer acknowledges that these figures can be "picked to pieces" in various ways. To illustrate, there is a fallacy in applying total cost through weaving when figuring loss on weave sweeps, as such sweeps are largely composed of such materials as threads, rags, paper, starch, bobbins, quills, loom parts, etc., rather than lint cotton.

The mill estimated that 25% of weave sweeps is foreign material which has to be removed before this waste can be put to use by the consumer. It would be extremely difficult, if not impossible, to arrive at an accurate mill loss on weave sweeps.

It is further recognized that the waste loss on a particular type of departmental waste may not be entirely accurate, for in some instances the total processing cost through the department has been applied against each type of waste in the department.

There would be a slight additional waste loss in this mill as some few of the minor waste classifications were not included.

The figures are sufficiently accurate to illustrate the loss on waste at each process in this particular mill and to indicate the extent of similar losses in other mills.

COMPARISON OF COST OF REPROCESSING REWORKABLE WASTE IN TWO MILLS

Reworkable Waste	Mill A (Actual Waste) Cost per Lb. to Reprocess	% Waste in Mill A	Lbs. Waste per Year	Cost/Year To Reprocess	Mill B (Actual % Waste) What waste would cost Mill B if Mill B processed the same poundage at the same unit cost as Mill A % Waste in Mill B	Lbs. Waste per Year	Cost/Year To Reprocess
Card Lap Waste	1.22	1.79	266,930	$3256.55	.994	148,228	$1808.38
Card Front Waste	2.45	1.17	174,470	4274.52	.327	48,762	1194.67
Drawing Waste	2.97	.86	126,790	3765.66	.271	39,953	1186.60
Slubber Waste	3.86	.80	116,675	4503.65	.416	60,671	2341.90
Roving-Spin.	3.86	.62	90,125	3478.83	.501	72,827	2811.12
Scavenger	10.30	.63	91,580	9524.32	.553	80,387	8279.86
		5.87		$28,803.53	3.06		$17,622.53

Reworkable Waste: Waste percentages in Mill B also represent the waste made in an actual mill. If Mill B ran the same poundages and had the same processing costs, the pounds of waste made in Mill B would be as listed. Thus, Mill B would, at their present percentages, lose $11,181.00 per year less than Mill A. The percentages of 3.06 in Mill B roughly represent a 50% waste reduction in this mill, for prior to the waste training program their reworkable waste was averaging between 6½% and 7%.

$28,803.53
$17,622.53

$11,181.00 Saved in Mill B

costs, it would cost them $9,192.00 to re-run this waste each year.

THIS ARTICLE to this point probably appears elementary to those levels of mill management which are accustomed to daily dealing with cost and waste figures. To other levels of management the figures used here are probably no more than just another set of figures—with little meaning.

This statement is in no sense to be construed as a criticism of the lower levels of supervision. If criticism is to be leveled, because certain supervisors do not fully realize the extent of the losses incurred from high percentages of waste, it rightfully belongs on the shoulders of top management—from superintendents, up.

Supervisor Training. In working with all levels of supervision in a number of different mills, ranging in size from 12,000 to over 100,000 spindles, the observation

Careless handling increases waste →

A RECENT waste survey in a number of southern mills proves that it is extremely difficult to draw conclusions by comparing waste figures from different mills unless the variables of grade and staple of cotton, machinery in place, and methods of processing and handling are given full consideration in a detailed analysis.

Among the mills participating in this survey, about 75% of them were using Middling cotton, and the other 25% were on Strict Low Middling. The staple length varied from 7/8" to 1 3/64".

Each participating mill was requested to give the poundage and percentage of waste made in each of its waste classifications for the preceding fiscal year. Difficulty in comparing waste figures immediately became apparent as no two of the mills separated waste into exactly the same classifications.

To illustrate, in certain instances all soft thread waste shown on the mill report was classified as being spinning department waste. This figure included all soft thread waste made in the mill. Since these figures were taken from invoiced bale weights, there was no way to determine what percentage of the waste came from spinning or what percentage came from spooling, warping, slashing, or weaving.

Some of the reports showed sweeps and clearer waste as one figure. On other individual reports, such classifications as dusthouse, O & P sweeps, bad cotton or pickings, card clearer, spinning thread, slasher waste, and cloth room waste were not reported at all.

The number of classifications into which the mills separated white waste on their waste reports ranged from a low of 13 classifications to a high of 42 classifications. The survey showed that the mills on the average separated waste into 25 classifications.

60% of the mills based waste percentages on cotton used. 40% of them based percentages on departmental production. This fact must be given consideration when making comparisons.

The following average waste percentages were compiled from the individual waste reports of the mills taking part in the survey:

	Average
Bagging and Ties	3.16%
Total through Carding	8.20%
Spinning, Spooling, Warping	1.69%
Slashing, Weaving	1.95%
Cloth room	.20%
Total visible waste	15.60%
Reworkable waste through Spinning	4.38%

Note: Tabulation of survey figures was made by a mill man who is well acquainted with waste procedure. Total visible waste is calculated by more than one method.

has been that overseers and secondhands, previous to a group training program, had little realization of the amount of waste made, what waste had cost the mill, or that a definite system could be followed in reducing waste. All many of them knew was to "tell 'em that the old man said waste had to come down."

Careful handling prevents waste. Stack—don't toss.

The mills in which these men worked were not by any means delapidated or antiquated plants. The supervisors themselves were not "dumb clucks." The vast majority of them were above the level of men found in many mills.

Why, then, did they not already have a realization of the costliness of waste and a knowledge of methods for reducing and controlling it?

Certainly top management over all these years had in their own particular way stressed waste; by reporting periodically the poundage and percentage made; by calling to the supervisors' attention the losses incurred from waste; by specifically pointing out the classifications which were out of line; by constantly talking waste in supervisory meetings; and by many other means and devices in use in individual mills.

An Example of Training and Waste Reduction. Maybe the recounting of a story, told by the superintendent of one of the larger mills, will partially explain why some of the methods in use do not secure appreciable or permanent reductions of waste:

In this particular mill the pound-

age of rags and remnants being made on one particular style was, in the opinion of the superintendent, completely out of line. The superintendent stated, "For the last two years I have been continually harping on this loss and it has been like pouring water on a duck's back for all the good it did."

These overseers and secondhands may have had this loss called to their attention a dozen or more times within these two years and still no appreciable reduction was secured.

Why didn't the superintendent just fire these supervisors and get some new ones? For the same reason that the majority of the mills don't fire them. It is difficult to find replacements that are improvements over what the average mill already has.

The supervisors in the mill making excessive rags and remnants sat in on a waste reduction training program. In the course of the program, the first shift secondhand in the cloth room selected the reduction of rags and remnants on this one style, as the specific waste problem he would tackle during the training program.

As a result of the training, this secondhand learned how to approach any waste problem in order to determine the extent, the cost, the causes, and the effects of the waste being made. Following this approach, in which all pertinent facts regarding the waste being made were brought to light, the secondhand learned how to analyze the problem in order to systematically plan its solution.

The accompanying box shows the first few items listed by this secondhand in his work on this waste problem.

By the time a complete analysis and the details of his plan for solving this problem had been worked out, the secondhand had filled several pages of letter size paper. He knew more about this particular waste problem than he had ever known at any time previously. In all he had spent several hours digging up facts, investigating, analyzing, and planning.

Note one important point: During the training program this secondhand had devoted his thoughts and his efforts to the reduction and control of waste to the exclusion of all the other phases of his job. During the hours of training he was "off" his job, and, as arrangements had been made to "cover" for him, he could confine his thinking to waste and waste alone.

The knowledge he gained about rags and remnants and the plans he developed for reducing rags and remnants was concrete evidence of the results of his own efforts. By being free to concentrate on waste during the program to the exclusion of the other phases of his job, the secondhand became interested in waste.

He became what is termed "waste conscious." In this sense this secondhand "discovered" this problem. In his own mind *no higher level of management had pointed it out or called it to his attention; he had found out all about it for himself.*

He found there was a total loss to the company, from rags and remnants on this one style, of $31,762.44 last year.

Upon completing his work on this problem, the secondhand with permission from his overseer, took it out to show to the mill superintendent. In the words of the superintendent again, "He acted like he had just discovered this loss and couldn't wait to make me realize how bad it was. Hell, I'd been trying to get him to realize the same thing for two years."

This secondhand wasn't dumb. His analysis of the problem proves that. And the superintendent said he was a good secondhand and above the average. Why then, during two years of prodding, didn't he realize the seriousness of this loss on this problem and go to work and get it reduced?

We could fill up a page listing all the duties of production supervisors. The average conscientious

SECONDHAND'S ANALYSIS OF LOSS ON RAGS AND REMNANTS

1. Remnants, 2 to 15 yard pieces, made last year = 104,601 yards.
2. These remnants sell for 15% less than first quality goods.
3. 104,601 yards of first quality goods would sell for $62,960.60.
4. 104,601 yards sold as remnants at 15% off = $53,516.51.
5. Loss on remnants = $9,444.09.

1. Rags made last year = 70,100 pounds.
2. 70,100 pounds of rags cost $45,565.00 to manufacture.
3. These rags sold for $32,246.00.
4. Loss on rags = $13,319.00.

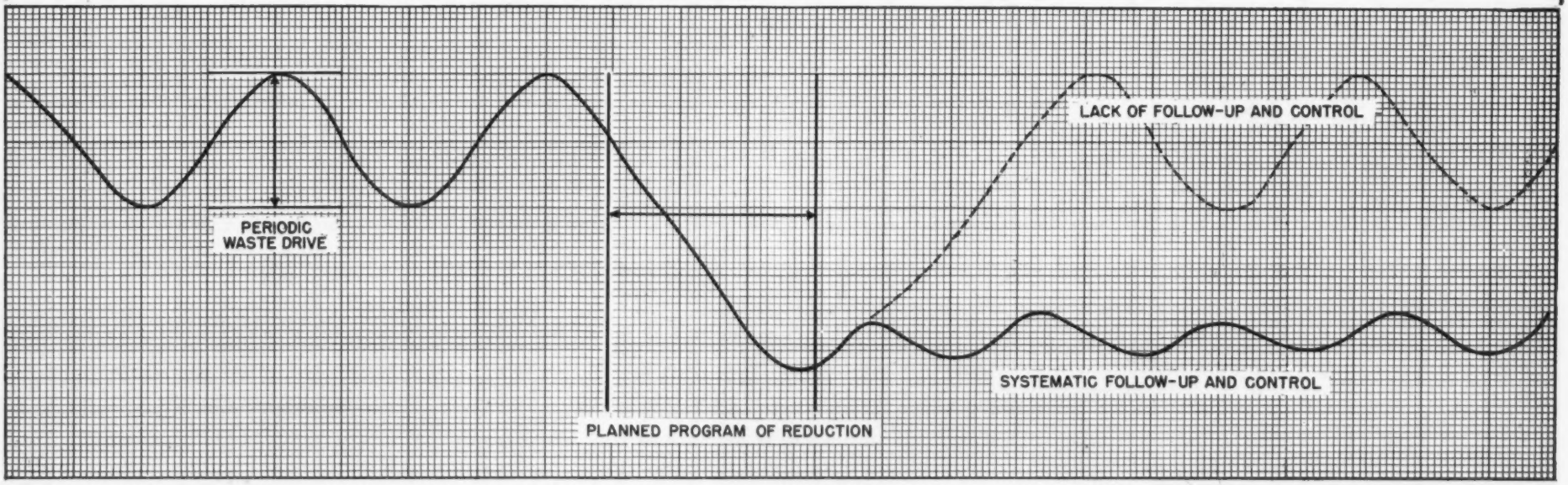
The reduction secured as a result of a waste training program for supervisory personnel, which led to a concerted effort on the part of all levels of supervision to reduce waste, is shown between the two vertical lines on the supervisor's analysis graph.

The extended solid line indicates the continuing result which should reasonably be expected, as long as other influencing factors remain constant, if supervision remains waste conscious, and if supervision applies systematic controls.

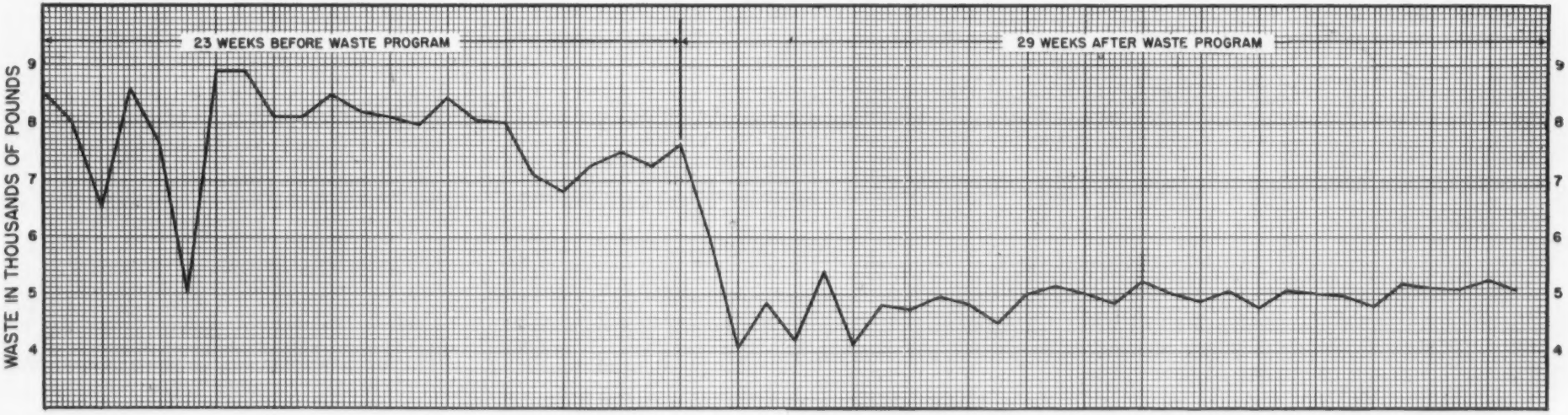
The dotted lines indicate the results that can be expected when supervision fails to follow waste systematically. When this happens the supervisor is assured of having to go through the same periodic procedure again within a short time, for without question the waste will become excessive again.

A waste reduction program generally has to be spark-plugged by top management, from superintendents up, but the actual reduction and control of waste is largely a measure of the effectiveness of the departmental supervisor.

The maximum and minimum waste variation from a waste standard indicates the effectiveness of the waste control. The more the waste varies from day to day, week to week, or month to month on a percentage basis, the less it is being controlled.



Below, graph from an actual mill shows the results secured from a waste training program for supervisors. Note the decreased variation of waste after the program.



overseer or secondhand seldom catches up. With all of their other duties in connection with production, quality, cost, maintenance, supplies, safety, making reports, training new employees, and attempting to keep employees satisfied, their approach to waste reduction is generally infrequent and haphazard.

Obsolete Waste Reduction Campaign. The following is not true in all mills, but it is true in enough of them to bring back memories to a lot of us. Periodically, overseers attend superintendents' meetings. In these meetings the superintendent may say, if in a mild frame of mind, "Bill, in looking over the waste report, I see that thread waste is up again. Better check on it."

Or he may say, "Joe, tangled yarn went sky-high last week. Get busy on it, will you?"

And, after making the rounds, the superintendent may pass on to one, two, or a dozen more things that he needs to discuss with his overseers.

The overseer generally makes notes as the discussion moves along, and if the superintendent pins him down with a direct question as to why so and so is in such bad shape, or why the waste has gone up again, the overseer may react as most of us are likely to do—he is a little ashamed and resentful because he was singled out for attention and because the subject was aired in the presence of the other overseers.

Some overseers will frankly state that through lack of attention they let the waste get away from them, but will get on it right away. Other overseers may try to pass the buck, blaming the waste on the quality of the material being delivered to them by the preceding department, which in many cases is one of the major causes.

At the close of the meeting, the overseer, oftentimes with a silent sigh of relief, closes his notebook and hurries back to his department and calls in his secondhands for a little session of his own. Some overseers pass "it" on down the line in this or a similar manner—"The boss jumped me again about that waste. I told you fellows last week to go around and talk to all the hands - - - - -."

Some secondhands, postponing whatever they might have been doing, hurry out and start talking. And, as many supervisors admit to either having heard or said on occasion through the years, they, in essence say, "The old man is raising hell about waste again, and said if you didn't get busy and cut it out, he was gonna run you off."

This may seem exaggerated and reminiscent of practices prevalent during the depression days, when, as someone expressed it, "There's a barefooted man waiting at the gate to take your place."

This may have adequately indicated to the employee what was expected of him. But make no mistake, some of this type of action still goes on and it isn't all confined to isolated instances in poorly managed mills.

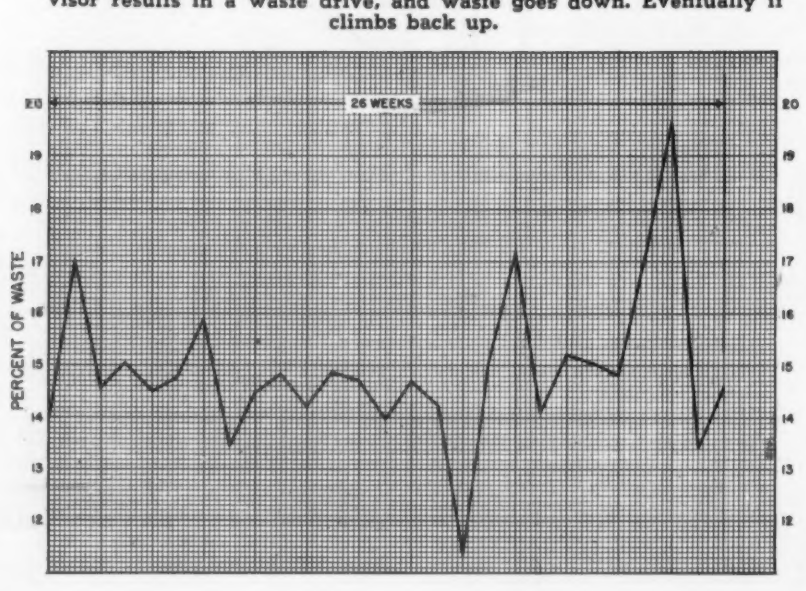
THE SUPERVISOR cannot always be blamed for use of methods such as those described. For in general he makes use of the methods he has been taught; and, in an amazing number of cases, the supervisor has worked in only one mill, in one department, under one boss.

Without benefit of varied experience or planned training designed for development, such supervisors usually adopt, to a large extent, the methods used by their immediate superiors. These, as we all know, can be good or bad.

If this sounds like an indictment against all mills and all supervisors, such is not intended. Many mills, long years ago developed or adopted programs for the development of all levels of supervision. These programs have paid dividends, not only in the field of industrial relations, but in increased efficiency, better quality, and less waste, all of which add up to a lower unit cost.

Neither is it an indictment of individual supervisors. In many instances these individuals have developed into excellent supervisors regardless of where, or for whom, they have worked. In other instances they have not developed satisfactorily regardless of where they worked or the opportunities they may have had for developing.

Graph showing total percentage waste per week. Low percentages indicate reductions as the result of periodic emphasis on waste (methods). Calling waste to the attention of the departmental supervisor results in a waste drive, and waste goes down. Eventually it climbs back up.



Trend Toward Technical Men. For the last few years there has been a trend in the industry that bears mention. In nearly every mill today management is looking forward to the time when young high school graduates or college trained men can be brought into the mill and trained for supervisory positions. There is no argument with this, as it is generally agreed that these are the types of men needed in the industry today and in the future. But many mills have taken the position that until

that day materializes, there is nothing much to be done except put up with the present situation.

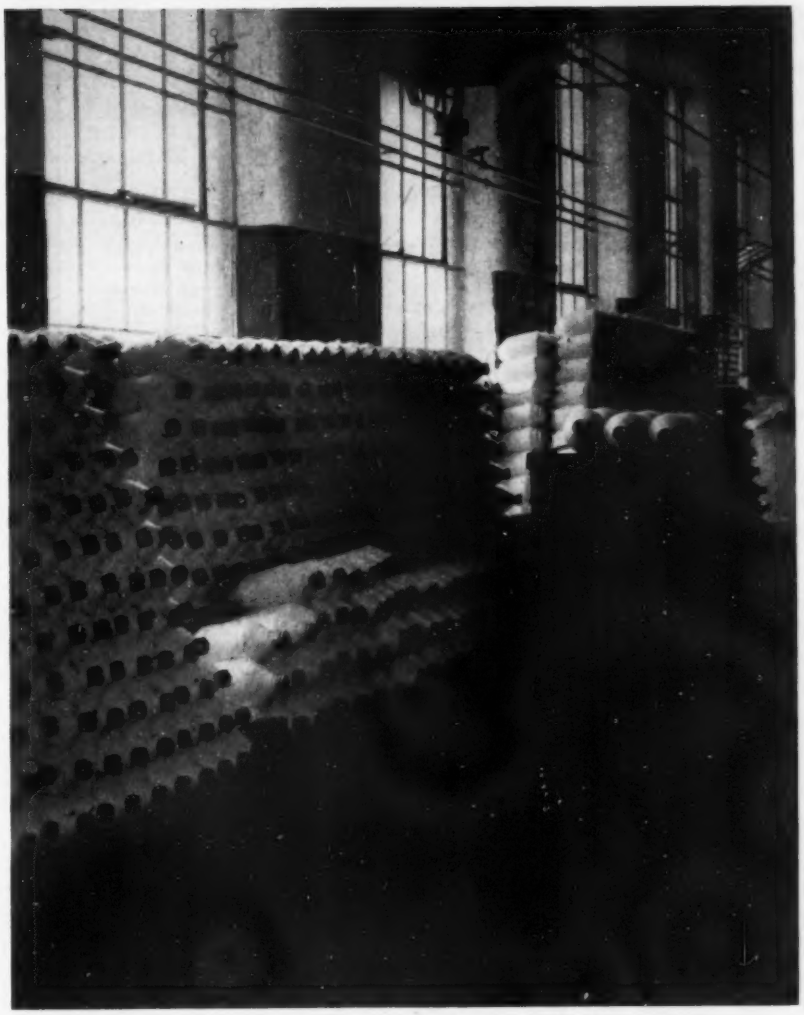
Such mills completely overlook the fact that improvement of their present group of supervisors would likely result from a well planned, continuous program of supervisory training.

Supervisory training must be emphasized.

Guidance by Management. The present group of supervisors in the average mill have a tremendous amount of latent, undeveloped ability. These men are capable on the whole of doing the job that management wants done, if they are encouraged and guided by management to develop their ability.

Without question, the efficiency of any organization is dependent upon the ability of its management to make best use of materials, machinery, and manpower to produce a quality product at the lowest possible unit cost. By the same token, the total percentage of waste removed or made in any mill is largely governed by the efficient utilization by management of the following four factors:

Materials
Machinery and Equipment
Methods
Manpower



Material storage is an important and influencing factor on waste. Here two methods of storage are shown, stacking and storage in boxes. Each additional time that stock in process is handled, additional waste is likely to result.

Waste Factor: Grade and Staple. Other conditions being equal, the grade and staple, particularly the grade, of the cotton largely determines the percentage of waste removed through carding. See accompanying table.

The production supervisor has little or no control over the purchase of cotton, this being a function of top management. Thus, so long as the percentage of waste being removed does not exceed that required to meet quality specifications of the goods being made, the supervisor cannot be held responsible.

The supervisor can be and is held responsible for excessive waste resulting from good fiber being removed in motes, fly or strips, and for high percentages of reworkable waste in the picking and carding departments, since this excess waste is due to poor machinery maintenance and settings or to lax supervision.

Waste Factor: Machinery and Settings. The machinery in place in the opening and picking departments, and the equipment in the mill or the attachments on the machinery, will affect, in an appreciable degree, the total percentage of waste made.

Again, the production supervisor has little or no control over a normal percentage of waste resulting from the machinery factor. When the waste becomes excessive from poor settings, maintenance, or supervision, then he can be and is

SUMMARY OF THE TOTAL VISIBLE PICKING AND CARDING WASTE FOR THE DIFFERENT GRADES OF COTTON TESTED

Miscellaneous Publication No. 310 U. S. Department of Agriculture.

Grade	Tests	Percentage of Waste		
		Mean	Highest	Lowest
	Number	Per Cent	Per Cent	Per Cent
SGM	4	6.12	7.17	5.38
GM	76	6.83	9.24	5.08
SM	109	7.46	10.80	5.65
M	73	7.85	10.98	5.10
SLM	32	9.80	16.53	7.12
LM	24	10.97	16.22	8.23
SGO	9	12.82	15.00	10.27
GO	10	15.16	18.09	12.99

held responsible for the waste.

No effort will be made to cover either the causes or cures for the waste which results from settings and maintenance. To do so would entail voluminous technical discussion which has no place in this article.

If we consider that the waste which results from these two factors, materials and machinery, can be largely termed necessary waste so long as it is not excessive, then we can only conclude that the vast majority of the waste, which most mills consider as being excessive, but controllable, is due to the other two factors—methods and manpower.

Waste Factors: Methods. It is evident that the waste resulting from methods and manpower *can never be completely eliminated,* for a certain portion of this waste is necessary waste under our present methods of processing.

Production supervisors are unanimous in their agreement that it is a mistake to try and effect reductions of waste beyond a practical limit. When reductions are forced beyond such a point, past experience has proved that the waste will be stuffed down the toilets, thrown out the windows, taken out of the mill, or destroyed by other means to prevent its coming to the attention of the supervisor.

This procedure is more costly to the mill than for the mill to condone the making of a slight excess, for when the waste is destroyed it is a total loss.

Thus, our main interest in considering the waste resulting from the factors, methods and manpower, lies in that portion of it which can reasonably be classed as unnecessary or excessive waste.

Effects of Methods. A few illustrations will suffice to show the effects of methods on the amount of waste made and on the amount of revenue the mill receives from the sale of waste.

The total percentage waste in many mills, if it were graphed, would show a trend over a period of weeks of operation similar to that of an actual mill shown on the accompanying graph [page 104].

GRADE COTTON	MILL NUMBER 1	2	3	4	5	6	7	8	9	10	11
Middling	✓		✓	✓	✓			✓		✓	✓
Strict Low Middling		✓		✓		✓	✓		✓	✓	
STAPLE											
7/8"			✓	✓							
15/16"	✓	✓		✓	✓						
1"			✓	✓					✓	✓	✓
1 1/32"					✓	✓		✓			
1 1/16"							✓				
1 3/32"											✓
1 1/8"					✓						
1 5/32"			✓								
1 1/4"			✓								
1 3/32"			✓								
Feed Aprons or Tables							✓				
Blending Hoppers or Feeders	✓	✓		✓	✓	✓		✓	✓	✓	✓
Conveyor						✓	✓				
Waste Machine	✓									✓	
Horizontal Cleaner											✓
Feed Apron or Tables	✓										
Lattice Opener										✓	
Vertical Opener										✓	
Bale Breakers			✓		✓			✓			
Condensers	✓	✓		✓			✓				
Gyrator		✓									
Blending Hoppers or Feeders		✓	✓				✓			✓	
Superior Cleaner											✓
Beater Section		✓			✓						
Vertical Opener	✓	✓				✓		✓	✓		
Screen Section						✓					
Lattice Opener	✓			✓		✓	✓		✓		
Centrif-Air		✓	✓	✓	✓						
Condenser	✓	✓				✓	✓				
Gyrator		✓						✓	✓		
Air Filter	✓										
Cleaning Trunk				✓							
Waste Hopper				✓							
Return Air Filter				✓							
Condenser				✓							
Gyrator				✓							
Pickers	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Note in the graph [on page 104] that waste goes down and then it goes back up.

It goes down, generally, when someone from the superintendent up decides that the waste is too high and that something must be done about it.

Calling the waste to the attention of the departmental supervisor results in a waste drive which effects some reduction, and the waste goes down. It may stay down a day, a week, or a month, but eventually it starts climbing back up. It starts back up when the departmental supervisor relaxes his attention to waste under the pressure of attending to other phases of his job.

Periodic Waste Drive. The "periodic waste drive" secures a partial and temporary reduction of waste. The frequency with which it is repeated largely governs the results secured. It is a never-ending process.

Such waste drives in some mills follow a rather fixed pattern. In other mills it is a periodic matter of "the old man raising sand again about waste," or "talking to the hands again about waste," or "telling everybody that waste has got to come down."

In other mills the approach is more intelligently planned and results in greater reductions which last over a longer period of time. But in the final analysis, periodic waste drives will only secure partial and temporary results.

Waste Handling Procedure

Weighing and Recording. In some mills the waste is being collected, weighed, and the weights recorded by from ten to fifty employees, on from one to six pairs of scales, which frequently are not properly checked and calibrated. The reports based on these waste figures can be inaccurate. This, in many instances, is responsible for the large discrepancy between weighed waste figures and invoiced baled waste figures.

Many mills make no periodic report of waste to productive de-

BREAKDOWN OF WASTE PER CENT BY WASTE CLASSIFICATIONS

The figures are presented as a matter of interest to other mill men to indicate how some mills classify their waste. Note the varying number of classifications.

The figures are taken from actual mills, but are not published to indicate either a high, low, or standard percentage of waste.

Opening and cleaning equipment, and its physical condition, influence waste percentages. Also type of product manufactured often makes the removal of certain percentages of waste mandatory. The accompanying layout of opening and cleaning equipment used in eleven mills and stock run, may prove of interest to other manufacturers.

	MILL NUMBER										
	1	2	3	4	5	6	7	8	9	10	11
PRE-OPENING											
Bagging	2.1	1.81	1.94		3.59	1.838	2.33	2.24	2.14	2.13	2.02
Ties & Buckles	1.4	1.33	INC'D BAGGING		INC'D BAGGING	1.23	1.71	1.68	1.73	1.66	2.25
Whse Sweeps								.02			
OPENING											
Motes & Fly		1.33		.829	.854	.708		.41	INC'D PICKING		
Dust House	.2			.322	.159	.215	.73	.18	.39		.31
Old Cotton or Bale (Pickings)				.083	.02	.028		.01		3.71	
PICKING											
Motes	1.8	1.62	2.16	1.085	.684	1.969	3.52	.69	2.75	1.48	2.12
Fly			.12		.016					.45	
Sweeps				.053	.015			.06			
Lint										.56	
CARDING											
Motes & Fly	1.5	1.02	1.22	1.077	1.37	1.42	1.99	1.51	1.64	1.34	1.43
Card Strips	3.9	2.65	2.91	2.159	3.08	3.97	3.47	3.43	3.08	2.53	2.88
Vac Strips			.87	.507			1.28				
Clearer	INC'D SPIN	.15		.115	.041	.142		.07	.06		
Sweeps	.30	.43	.46	.41	.51	.64	.42	.39	.40	.52	1.12
Lap Waste				1.48			2.8				
Card Sliver				.749			INC'D LAP W.				
Drawing				.74			.91				
Slubber				.465			1.17				
Roving				.159							
SPINNING											
Clearer	.10			.094	.036		.11	.03	.01		.12
Thread Waste	1.7 A			.093	INC'D SPOOLER	1.237	.06	.26	.04	.58	
Scavenger				.608			1.55				
Sweeps	.90	1.05		.935	.523	.867	1.35	.71	.83	.78	.97
Roving Waste				.588		.169	INC'D SCAVENG				
Oily Threads						.058		.03	.04		
Hard Waste			1.00								
SPOOL & WARP											
Spooler Thread		.06		.128	.462		.42			.31	
Warper Thread				.034			INC'D SPOOLER			.21	
Condenser				.135							
Tailing Mach.		.32		.221							
Beam Waste				.032				.05		.22	
Sweeps				.010	.234				.29		
Spooler Fly								.06	.16		
WIND & TWIST											
Winder Thread				.134							
Sweeps				.205	.097				.07		
Mop Yarn				.633							
Soft Thread		.03	2.8		.22			.30	.82	INC'D SPIN	
Twister Thread									.63	1.46	
Kinky Cable					.219			.02			
Kinky Ply								.18			
Straight Cable					.154			.30			
Oily Soft Thread					.021			.06			
Oily Hard Thread								.05			
Wrong Ply					.834			.62			
SLASHING											
Soft Thread		.13		.272		.015	.11				
Hard Thread	.7	.69		.258		.351	37			.61	.37
Tie-in Waste		.16		.367							
Sweeps				.01							
Greasy Rags				.024							
Heddler				.036							
Beam Waste				.323					1.68		
Balled Hard Thread						.204					
WEAVING											
Quill Mach.		.71		.835					.22	.85	
Sweeps	.8	.68		.743	.225	.667	.54		.16	.56	1.06
Hard Threads				.234			.20		.14	.25	
Rags										.03	
Soft Threads				.006	4.56		.33		2.09		.93
Greasy Threads				.005							
Warp Ends	.10	.06		.044					.22		
Dirty Clippings										.01	
CLOTH ROOM											
Oily Rags				.014		.115			.01	.01	
Rags	.20	.02		.133		.127	.37		.08	.09	
Brusher & Shearer				.097	.04						.07
Sweeps				.029							
Hard Waste				.044							
Long Rags						.009					
Remnants					.063				.08		
Calender										.07	
"A" indicates "debris" yarn included											

partments. Needless to say that the waste in these mills is usually high. An adequate reporting system is vital to the reduction and control of waste.

Waste Classification. One mill was packing vacuum strips with flat strips. The resulting bale was composed of approximately 20% vacs and 80% flat strips. On keeping the two classifications of waste separate and baling separately, the mill received about 2c more per pound for flat strips, with no reduction in price received for vacuum strips. The resulting savings ran into an appreciable increase in mill revenue from sale of waste.

In another mill, card clearer waste was being packed with card room sweeps, for which the mill was receiving about 2c per pound. The procedure was changed and clearer waste was kept separate and sold for 7½c per pound, with no reduction for sweeps.

Any clean material from ¼-yard up, if it is packed flat may be

worth four or five times the value of rags. Rags should only include scrap and short pieces of less than ¼-yard.

Some mills do a poor job of separating rags from remnants, indiscriminately mixing lengths of from one to two yards in with scraps. To command the higher price of remnants, these shorter pieces must not be unduly wrinkled and must be packed flat. Oily, dirty, and misdyed remnants of similar length also have a higher value than scrap, if classified and packed properly.

Certain types of medium and coarse count plied yarns in lengths of from 30 inches and up, and if packed as mop yarn, will bring an average of 10c per pound more than what is commonly classified as thread waste. This yarn should be packed to prevent tangling.

The waste dealer is always gratified to buy card and spin sweeps which contain a high percentage of lap, front, sliver, roving, or scavenger waste, as these sweeps are highly favored by his customers and command a higher price than average sweeps.

The waste dealer on the other hand does not care for the thousands of pounds of bobbins and quills and spindles and bolsters and saddles and rolls and other machine parts he gets along with sweeps, for these have to be picked out before the waste can be further processed.

Just recently one enterprising dealer was reported as doing quite well sorting and reselling these products back to the mills as secondhand merchandise.

The average mill takes a terrific loss on parts and supplies lost in sweeps.

Another small loss, which can run into a loss of a thousand or more dollars per year in some mills, is in the amount of tare used in baling waste. The standard allowance for bagging and ties placed on a bale of waste is 7%. On the classifications of waste selling for more than the price being received for bagging, it is to the mills' advantage to use the full 7% allowance. On the classifications selling for less than bagging, it is to their advantage to use only the amount necessary to make the bale acceptable to the purchaser.

There are many other waste losses due to certain of the methods in effect in the mill. Included in these are: (1) The mixing of different kinds and colors of waste which reduces the price received from the dealers; (2) the setting of machinery and equipment which results in a higher percentage of waste being made or in good fiber being lost; (3) improper humidity in the mill or less than standard moisture content in the baled waste; (4) improper methods of transporting and storing the stock as it is processed through the mill; (5) the lack of a standard for the waste allowable in each of the classifications; and many others that could be listed as affecting the percentage of waste made or the return received by the mill from sale of waste.

Waste Factor: Manpower. The last major factor governing the amount of waste made in any mill is Manpower. The use of the term, "Manpower," is being interpreted to include not only employees, but all levels of management as well. In regards to these two groups our specific interest lies in:

(1) The ability and attitude of management

(2) The skill and attitude of employees.

The methods in effect in a mill as regards waste can only result in either more or less waste being made. These methods, some of which were discussed in preceding paragraphs, are dependent upon management.

Discounting the necessary waste resulting from the factors, materials and machinery, the vast majority of the remainder of the waste made is *dependent upon the attitude of management toward waste* and the *ability of management to reduce waste.* Management in this instance includes every level of supervision from the president of the company through the secondhand or foreman in the productive departments of the mill

Each level of management or supervision looks to each successively lower level of management or supervision for results. The results generally expected are high production, good quality, little waste, few accidents, low turnover, etc,—all adding up to the greatest possible quantity of the best possible quality at the lowest possible unit cost.

The final yardstick that measures the efficiency of operation is always unit cost—cost per yard or cost per pound.

Effect of Waste on Quality, Production, and Costs. Without question, waste affects many of the elements which govern cost. High waste percentages result in a definite decrease in production.

Waste makes more ends come down in carding and spinning.

It increases loom stops in weaving.

Tangled yarn cuts down on pounds through warping.

Hard and soft slasher waste reduces total delivered pounds on loom beams.

Hard and soft weaving waste reduces the pounds of woven cloth.

There have been instances where the poundage of reworkable waste being made entailed overtime running in the card room to get needed production.

Waste has its effect on quality. The more waste the more splicings, the more piecings, the more unevenness, the more tangling, the more breaking—all of which add up to more bad work and more seconds.

Waste has its effect on cost by lowering both production and quality, in addition to the cost of cotton loss plus the cost of processing loss, which all waste made and sold must include.

If waste losses were figured in detail, it is entirely possible that the loss of production and the lowered quality resulting from excessive waste would exceed the loss accruing from the actual waste made and sold. If this should prove to be true, the total mill loss attributable to waste would be much larger than the amount currently considered as being lost on waste.

Few mills consider waste from this viewpoint, but there have been instances where a reduction of waste was directly responsible for getting departmental cost out of the red and into the black.

There is a direct relationship between the amount of waste made

and the ability and attitude of management. It is not uncommon to find supervisors who have the needed ability but are not utilizing it to secure a reduction of waste.

This may be the result of two things: The supervisor may have little conception of the extent of the loss because its importance has never been stressed to him; or the supervisor has developed a closed-mind attitude toward waste, in effect saying that it can be reduced no further. This may or may not be true. In either case his attitude toward waste is such that a reduction is not likely to result.

The following illustration could be applied to any level of management connected with a mill or to any employee working in a mill:

Ability + Training = Skill
Skill + Habits = Efficiency
Efficiency + Attitude = Type of Supervisor or Employee
Type of Employee + Type of Supervision = Results

This illustration applies only to the manpower factor. Consideration already has been given the other three factors — materials, machinery and methods.

Employee Training. No amount of training can develop a person with little ability or aptitude toward a certain job into a skilled worker on that job. A person with a high degree of ability seldom develops a high degree of skill unless he or she has been properly trained.

Regardless of the amount of skill possessed, poor work habits do not make for efficiency. Even a highly efficient person may have an attitude toward the various phases of his job or his fellow workers or his supervisor or his company so that he could not possibly be considered a desirable employee or supervisor.

One employee may have a high degree of skill and yet be careless of waste. Another employee may have a tough time keeping up with the job and yet be careful of waste. The daily work habits as practiced today by the majority of employees are the result of how well they were trained when first learning their jobs. It is no exaggeration to say that it is about ten times as hard to break an experienced employee of bad work habits as it is to develop good work habits into a new employee of comparable ability.

Past experience, gained in working with production supervisors, strongly indicates that the accepted definition of training, in their minds, deals with teaching the employee a physical skill based on manual dexterity. Upon completion of this phase, the training function, as such, generally stops.

The new employee is taught, and not always correctly by the admission of many overseers and secondhands, how to creel in the lap, to splice an end, to set in roving, put up an end, doff the frame, and the many other duties of the various jobs throughout the mill.

But training goes further than the teaching of a physical skill. It should be broadened to cover that somewhat intangible thing we call attitude—employee attitude.

A person with a reasonable amount of native ability along certain lines, can, with proper instruction or training, become a skilled spinner. By daily practice the person increases her speed or proficiency in performing the required operations of the spinner's job. As the person's skill improves, she is at the same time developing ingrained work habits, which are likely to follow her all through life. These work habits make a large portion of her work second-nature with her. She can almost perform certain phases of her job without thinking.

Now let's assume that this spinner has developed into a highly skilled individual. She is one of the last to get "stuck-up" when the work runs bad and she does not have to work herself half to death trying to keep up with the job, but—she is careless. She is careless about waste and a few of the other highly important things about any job.

She drops roving and scavenger waste on the floor; she creels out bobbins of roving with two or more layers remaining; she spends a lot of time in the water house; she doesn't get along too well with her section man or doffers; she wants to be out one and sometimes,

ACTUAL MILL EXAMPLES OF SAVINGS BY PLANNED WASTE REDUCTION PROGRAM

Rags

1. Rags averaged .33% before waste program.
2. Rags reduced to .19% after waste program.
3. Savings per year $2,673.

Second Quality Cloth

1. Cloth seconds year before waste program 1,194,700 yds.
2. Cloth seconds for year after waste program 625,768 yds.
3. Loss on 1,194,700 yds. = $95,576.00.
4. Loss on 625,768 yds. = $50,061.44.
5. Savings one year = $45,514.56.

Tying-In Warps

1. Before program, 21,000 pounds/year.
2. Loss to mill, $10,920 per year.
3. After program, 4,970 pounds/year.
4. Loss to mill, $2,584.40 per year.
5. Savings, $8,335.60.

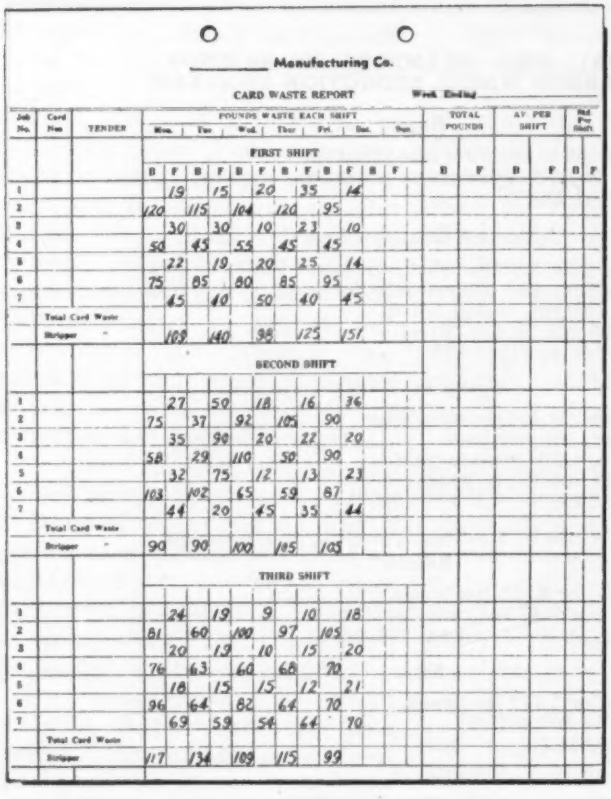
Hard Waste in Slashing, Tying-in, and Weaving

Before

1. Average 1.18%, or 3,428 lbs/week.
2. Loss on hard waste 43.411 cents/pound.
3. Loss per year on hard waste, $74,406.45.

After

4. Average .61%, or 1,772 lbs/week.
5. Loss per year = $38,462.15.
6. Savings = $35,944.30.



_____ Manufacturing Co.

CARD WASTE REPORT Week Ending _____

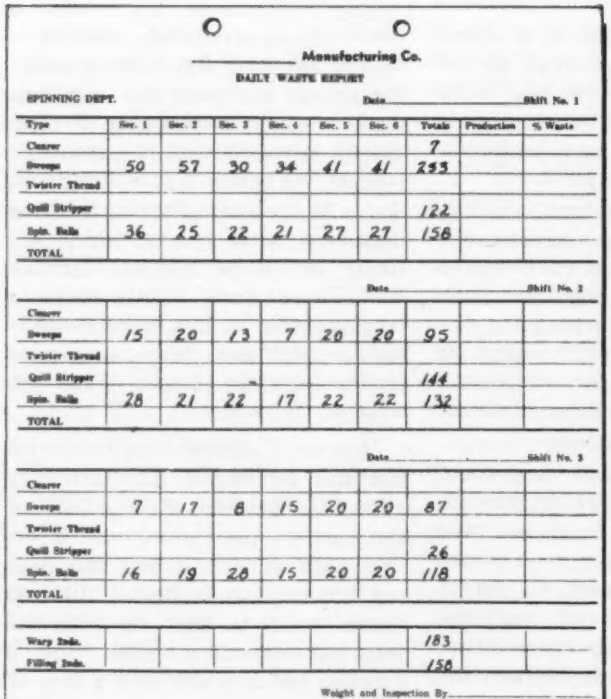
Job No.	Card Nos	TENDER	POUNDS WASTE EACH SHIFT Mon.	Tue.	Wed.	Thur.	Fri.	Sat.	Sun	TOTAL POUNDS	AV. PER SHIFT	Std. Per Shift
			FIRST SHIFT									
			B F	B F	B F	B F	B F	B F	B F	B F	B F	B F
1			19	15	20	35	14					
2			120	115	104	120	95					
3			30	30	10	23	10					
4			50	45	55	45	45					
5			22	19	20	25	14					
6			75	85	80	85	95					
7			45	40	50	40	45					
	Total Card Waste											
	Stripper		108	140	98	125	151					
			SECOND SHIFT									
1			27	50	18	16	36					
2			75	37	92	105	90					
3			35	90	20	22	20					
4			58	29	110	50	90					
5			32	75	12	13	23					
6			103	102	65	59	87					
7			44	20	45	35	44					
	Total Card Waste											
	Stripper		90	90	100	105	105					
			THIRD SHIFT									
1			24	19	9	10	18					
2			81	60	100	97	105					
3			20	19	10	15	20					
4			76	63	60	68	70					
5			18	15	15	12	21					
6			96	64	82	64	70					
7			69	59	54	64	70					
	Total Card Waste											
	Stripper		117	134	109	115	99					

_____ Manufacturing Co.

WASTE REPORT

Week Ending _____

Job No.	1st. SHIFT POUNDS						Job No.	2nd. SHIFT POUNDS						Job No.	3rd. SHIFT POUNDS						TOTAL
	Sat.	Sun.	Mon.	Tue.	Wed.	Thu.	Fri.		Sat.	Sun.	Mon.	Tue.	Wed.	Thu.	Fri.		Sat.	Sun.	Mon.	Tue.	Wed.	Thu.	Fri.	
Loppers								Loppers								Loppers								
1			10	7	9	7	5	1			5	11	6	13	10	1			5	5	6	6	9	
2			8	7	10	6	5	2			5	3	3	3	2	2			12	8	8	6	7	
3			7	5	5	5	4	3			2	1	2	2	3	3			4	7	12	7	8	
4			6	3	5	7	4	4			3	5	4	7	6	4			7	9	11	10	8	
Drawing								Drawing								Drawing								
1			13	16	26	10	11	1			16	19	7	16	13	1			12	11	9	12	13	
2			13	26	12	11	13	2			19	15	18	15	14	2			10	13	11	0	11	
3			10	17	24	9	15	3			21	18	20	27	18	3			13	10	12	17	9	
4			17	22	20	18	17	4			11	14	13	15	13	4			17	19	20	16	4	
Slubbers								Slubbers								Slubbers								
1			14	21	17	6	17	1			10	13	9	11	12	1			7	7	7	8	9	
2			8	6	17	7	4	2			9	11	10	7	9	2			0	8	7	9	10	
3			7	7	9	7	6	3			11	11	9	6	8	3			9	12	8	11	0	
4			9	6	8	9	6	4			10	9	10	13	9	4			8	8	8	4	0	
5			8	2	12	8	7	5			9	6	5	9	6	5			9	11	10	7	7	
6			8	11	9	7	4	6			7	8	7	8	7	6			11	12	9	9	9	
7			5	4	4	4	6	7			5	7	6	5	5	7			6	8	0	0	0	
8			7	3	6	6	7	8			6	5	8	7	8	8			4	8	0	0	0	
9			6	4	4	3	4	9			5	6	5	7	7	9			8	6	8	4	6	
10			6	5	4	5	6	10			7	7	7	5	6	10			5	6	8	5	6	
11			6	5	6	6	5	11			4	9	8	8	5	11			0	0	0	6	5	
12			9	4	7	6	7	12			7	7	4	7	6	12			4	0	8	5	7	
13			6	7	7	8	6	13			6	6	5	6	8	13			0	5	7	5	7	
14			5	5	4	4	3	14			7	7	7	7	7	14			0	6	3	0	5	
Cleaner			12	15	8	5	7	6	5	6														
Bobbin Machine								Bobbin Machine								Bobbin Machine								
8"			11	11	16	18	12	14			15	34	25	10	16	8"			95	88	82	32	81	
10"			112	85	74	96	75	10"			115	122	115	98	118	10"			95	94	97	96	97	
Flow Machine								Flow Machine								Flow Machine								
1			33	58	32	46	27	1			46	39	34	29	37	1			55	50	51	30	24	
2			42	28	38	23	5	2			35	40	52	72	72	2			40	37	56	37	41	
Sweeps			83	45	111	68	44	Sweeps			135	121	115	125	148	Sweeps			111	112	35	25	33	



_____ Manufacturing Co.

DAILY WASTE REPORT

SPINNING DEPT. Date _____ Shift No. 1

Type	Sec. 1	Sec. 2	Sec. 3	Sec. 4	Sec. 5	Sec. 6	Totals	Production	% Waste
Cleaner							7		
Sweeps	50	57	30	34	41	41	293		
Twister Thread									
Quill Stripper							122		
Spin. Rolls	36	25	22	21	27	27	158		
TOTAL									

Date _____ Shift No. 2

Cleaner									
Sweeps	15	20	13	7	20	20	95		
Twister Thread									
Quill Stripper							144		
Spin. Rolls	28	21	22	17	22	22	132		
TOTAL									

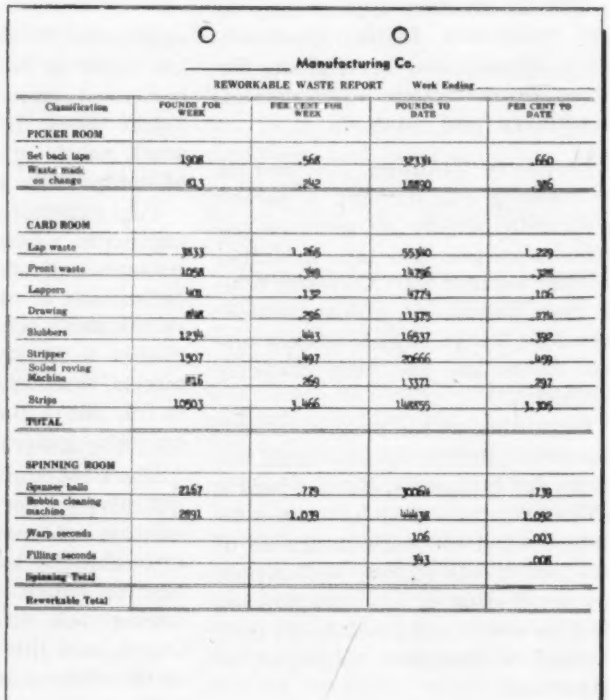
Date _____ Shift No. 3

Cleaner									
Sweeps	7	17	8	15	20	20	87		
Twister Thread									
Quill Stripper							26		
Spin. Rolls	16	19	28	15	20	20	118		
TOTAL									

Warp Ends.							183		
Filling Ends.							158		

Weight and Inspection By _____ Foreman

Overseer Department _____



_____ Manufacturing Co.

REWORKABLE WASTE REPORT Week Ending _____

Classification	POUNDS FOR WEEK	PER CENT FOR WEEK	POUNDS TO DATE	PER CENT TO DATE
PICKER ROOM				
Set back laps	1908	.568	32391	.660
Waste mach. on change	813	.242	18830	.385
CARD ROOM				
Lap waste	3833	1.265	55390	1.229
Front waste	1058	.349	13756	.328
Loppers	401	.132	4774	.106
Drawing	864	.286	11375	.274
Slubbers	1236	.463	16537	.392
Stripper	1507	.497	20666	.459
Soiled roving Machine	816	.269	13371	.297
Strips	10503	3.466	146855	3.305
TOTAL				
SPINNING ROOM				
Spinner bails	2167	.715	33061	.738
Bobbin cleaning machine	2891	1.039	46838	1.092
Warp seconds			106	.003
Filling seconds			343	.008
Spinning Total				
Reworkable Total				

two days a week; she doesn't like for learners to be assigned to her for training. All in all, her attitude "just ain't right."

Overseers and secondhands are almost unanimous in classifying such a person as undesirable or a poor employee. And, if after working with such a person, they are unable to change her attitude, they state it more bluntly by saying, "She's a sorry hand and I'd get rid of her if I could."

Oftentimes, the shortage of skilled spinners makes it difficult

_____ Manufacturing Co.

DAILY WASTE REPORT

Spooling - Warping Department Date_____ Shift No. 1

Type	Sat.	Mon.	Tues.	Wed.	Thur.	Fri.	Total		
Spooler		8	10	7	9	8			
Warper		3	3	3	2	2			
Tailings		47	16	62	54	57			
Sweeps		4	11	10	13	10			
Condenser		16	20	20	16	21			
TOTAL									

Date_____ Shift No. 2

Spooler	9	10	8	8	10	9			
Warper	2	2	2	3	2	2			
Tailings	53	32	50	56	40	44			
Sweeps	21	9	8	8	9	9			
Condenser	12	12	21	24	22	23			
TOTAL									

Date_____ Shift No. 3

Spooler		12	11	10	10	10			
Warper		3	2	2	2	2			
Tailings		X	X	X	X	X			
Sweeps		13	14	12	13	13			
Condenser		X	X	X	X	X			
TOTAL									

Weight and Inspection By_____ Section Man

Foreman Department_____

Overseer Department_____

_____ Manufacturing Co.

WEEKLY WASTE REPORT

WEAVE DEPARTMENT Week Ending_____

Type	Sat.	Mon.	Tue.	Wed.	Thur.	Fri.	Total Pounds	%
WEAVE ROOM								
Hard Waste		144	146	140	153	138		
Soft Waste								
Oily and Dirty Rags	4	14	31	29	17	43		
Oily thread Used		13	20	17	18	19		
Oily thread Sold								
Battery Waste								
Sweeps	74	712	786	731	784	704		
SLASHER ROOM								
Hard Waste	38	110	124	67	130	102		
Soft Waste	117	161	168	202	142	838		
TIE-IN ROOM								
Hard Waste		84	96	92	102	136		

_____ Manufacturing Co.

NON-REWORKABLE WASTE REPORT Week Ending_____

OPENING ROOM	POUNDS FOR WEEK	PER CENT FOR WEEK	POUNDS TO DATE	PER CENT TO DATE
Bags	6175	1.898	87379	1.783
Tins (Sheet)	2008	.597	33170	.615
PICKERS				
Motes and fly	7842	2.333	121999	2.482
CARD ROOM				
Flat Strips	905	.329	21367	.479
Card Fly	3692	1.206	51485	1.143
Clearer, Card Lapper, Drawing, Slubber	337	.151	4615	.102
Sweeps, Card, Lapper, Drawing, Slubber	1826	.603	33171	.692
Filter and Dust	1928	.636	34908	.775
TOTAL				
SPINNING ROOM				
Clearer	164	.060	2648	.051
Sweeps	1945	.700	30054	.756
Twister Thread			281	.006
Quill Stripper	1222	.479	19810	.467
TOTAL				
SPOOLER ROOM				
Spooler Waste	112	.095	2701	.090
Warper Waste	40	.027	663	.029
Tailings	447	.315	7583	.390
Sweeps	143	.090	2680	.120
Condenser	213	.138	3171	.142
TOTAL				
SLASHER ROOM				
Hard Waste	584	.191	7761	.156
Soft Waste	795	.230	12350	.295
TIE-IN ROOM				
Hard Waste	481	.163	6800	.158
WEAVE ROOM				
Hard Waste	751	.295	12149	.272
Soft Waste	40	.014	905	.012
Oily Rags	192	.065	2538	.056
Oily Thread (Sold)	20	.007	908	.012
Oily Thread (Used)	70	.024	985	.022
Battery Waste	48	.016	690	.015
Sweeps	4016	1.370	60097	1.368
TOTAL				
CLOTH ROOM				
Rags	1337	.453	13045	.320
TOTALS				

The forms on this and the opposite page typify the waste reports kept in one mill. Note that some of the waste figures are kept on a daily basis and that others are on a weekly basis. The reworkable and non-reworkable waste reports are summarized weekly. Adequate departmental waste reports are vital to the reduction and control of waste.

to layoff or get rid of people such as these. A very small minority of employees with a poor attitude can constitute an awfully big headache to the secondhand and overseer.

Type of Employment + Type of Supervision = Results. Good employees under lax or inadequate supervision are not likely to produce what is termed good results. The same would be true if these were reversed and there were poor employees under good supervision. The first instance would be far more costly to the mill in the final analysis, for under poor supervision even good employees are likely to deteriorate. In the second instance the mill would likely gain in the long run, for a good supervisor builds up the level of his employees.

In the final analysis the only way for the supervisor to reduce waste is through the efforts of employees. Unfortunately the average employee will not voluntarily or consistently work to keep waste at a minimum. This fact is responsible for the repeated rise in waste following each periodic waste drive.

There is a group of employees in every mill who diligently strive to run their jobs to the best of

their ability. This group not only *knows how* to run their jobs, but their attitudes are such that they also *care how* they run them. This group requires a minimum of supervision, will cooperate willingly, and will not knowingly make excessive waste.

There is a second group in the mill who generally *know how* to run their jobs but who don't much *care how* they run them, along with a few who *do the best they know how*. This type of employee requires more of the supervisor's time and, on the whole, will cooperate with the supervisor and try and follow to some extent his instructions regarding waste.

The last group in the mill might be titled as those who *neither know nor care*. This group is only careful of waste when the boss is looking. The minute he turns his back, their efforts stop. This group is responsible for a vast amount of waste, and the supervisor's day is not long enough to give them all of the attention they require.

Supervisor Responsibility. The attitude that each employee has toward waste is largely a responsibility of the supervisor. If the supervisor is lax in his approach to waste, then the employee is likely to be careless about making waste.

If the supervisor does not think waste particularly important, neither will the employee think it important. Just occasionally "talking to employees" about waste, or occasionally "raising sand with employees" about waste has little effect on the attitude of the employee toward waste. Past experience has proved this conclusively.

The ability and attitude of the various levels of management to *all* phases of their jobs can only have one of two results in so far as employees are concerned. The employee is either going to have faith *in* management or fear *of* management.

Willing cooperation between the different levels of management or between any level of management and the employee can never be secured as a result of force. No person can be *made* to willingly cooperate. This is not to say that it is impossible to make a person cooperate, for such can be achieved, but it is to say that it is impossible to make a person cooperate willingly. Willing cooperation has to be based on mutual faith between two people or two groups of people. Faith or fear greatly influence attitudes.

Skill without correct attitude will never result in the highest efficiency, the best quality, the least waste, the lowest unit cost, or the largest possible measure of the individual's happiness and satisfaction from a job. Attitude is largely the result of training and treatment.

The departmental supervisor has to lead the way in waste reduction and control. In order to do this the supervisor must accomplish the following:

1. He must realize the importance of waste.

2. He must adopt an open-minded attitude toward waste.

3. He must be able to analyze each waste problem and develop planned methods which effect reductions.

4. He must develop and install systematic procedures for controlling waste.

After the departmental supervisor has accomplished this, he then must start re-educating certain of his employees to the importance of waste. On paper this may sound like an enormous amount of work with results not worthy of the effort, but practical application has proved that such is not the case. For after doing this, the supervisor will find that he actually has more time to devote to other phases of his job, as the time spent on waste will be largely in follow-up checks.

Results from Departmental Supervisor's Analysis and Program. An analytical study of the waste made in each of the waste classifications, by the departmental supervisor, which leads to a planned method for reducing the waste, generally produces results as indicated.

To secure a reduction of waste is but a job partly done. To complete the job, the waste must be controlled within certain limits.

Possible Savings. The possible savings resulting to the average mill from a planned approach to waste reduction and control could range from a few thousand dollars to a hundred thousand or more dollars per year, depending upon the poundage of waste made and the classifications in which it is made."

A one per cent reduction in total mill waste, secured in certain classifications, could easily result in savings exceeding $100,000 per year in mills processing a large poundage.

To realize the full extent of possible savings from waste reduction and waste control requires methods beyond the mere application of periodic pressure by each level of supervision on each lower level of supervision, or the use of this device on employees.

Pressure does secure partial and temporary reductions, but it does not secure the larger and more permanent reductions that are possible through a planned approach to this problem.

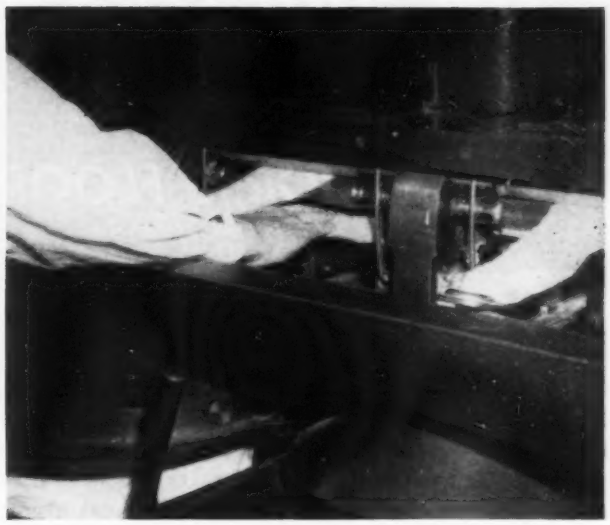
It was previously stated that modernization was being effected in the industry as a whole. Once this program is completed, few mills are likely to have a wide advantage over other mills in lower costs resulting from this phase of operations. In the near future the two major factors which may give one mill a decided advantage over another mill, in efficiency of operation, will be in trained employees and trained supervision.

The author and the editors of "Textile Industries" appreciate the cooperation of the mills which participated in the waste survey and furnished actual waste figures for publication. Our thanks also to the mills furnishing waste reporting forms, and to the mills which permitted posed photographs to be made especially for this article.

This article is especially timely because of the renewed interest in waste reduction and control during recent months, as exemplified by open forum meetings, discussion with mill men, and letters to the editor. As a further example of what one group of mills is doing toward waste reduction and control, see page 188.

Reprints of this article are available up request.—The Editors.

Pressure on the clearer is relieved by pulling downward on the ring which is provided underneath for the purpose.



While the ring is held down by the left hand, the clearer can be cleaned easily and quickly with the right hand.

Spring Type Clearer for Bottom Rolls

Staff Prepared

LAP-UPS on bottom drawing rolls were formerly a source of interference with production at the spinning plant of Southern Franklin Process Co., Fingerville, South Carolina. However, this cause of trouble at the drawing process has been eliminated as a result of the installation of a new type bottom clearer.

The new clearer for bottom steel rolls is kept in contact with the rolls by springs. The springs are attached to the bottom of the clearer and are held in a vertical position by an inner shaft which is fastened by a nut to the base support. This base has slots on each end which are designed to allow for changing the roll settings. There is one clearer for the two front rolls and another for the back rolls. The clearer can be made for one process drawing frames with five rolls.

Lap-Ups Eliminated. The pressure of the clearer against the bottom rolls is sufficiently strong to cause all waste to be picked up by the felt surface of the clearer cloth. This eliminates lap-ups and increases production due to the fact that the drawing frame does not have to be stopped frequently by the operative in order to remove the waste from the rolls.

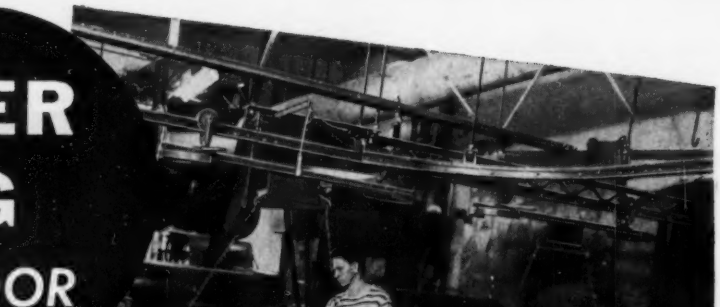
Uniform Pressure. The four springs (two on each end) that hold the clearer against the rolls maintain an even pressure on the clearer. The flutes of the rolls are kept cleaner due to this uniform pressure.

Cleaning Less Difficult. The clearer is very easy to clean. A ring which is about three-fourths of an inch in diameter is attached in the middle and at the bottom of each clearer. This ring is provided as a means to pull the clearer down for cleaning operations. The operative can pull the clearer down by placing a finger through the ring and exerting pressure on the spring. The other hand is left free to clean the surface of the clearer while it is being held down. After the ring is released, the clearer is pulled back in place automatically by the action of the springs.

Adaptable to Other Processes. The clearer can be manufactured for slubbers and roving frames, the only difference being a variation in size. Southern Franklin Process Co. has all of the drawing frames equipped with the new clearer, and the single roving process machinery is being equipped with the clearer. The efficiency and merits of the clearer are superior, according to the record of operation in this modern plant.

The patent for the spring-type clearer is owned by J. W. Junkers, Spartanburg, S. C. The clearers installed in the Southern Franklin Process Co. were manufactured by Precision Bearing and Machine Company, Spartanburg, South Carolina.

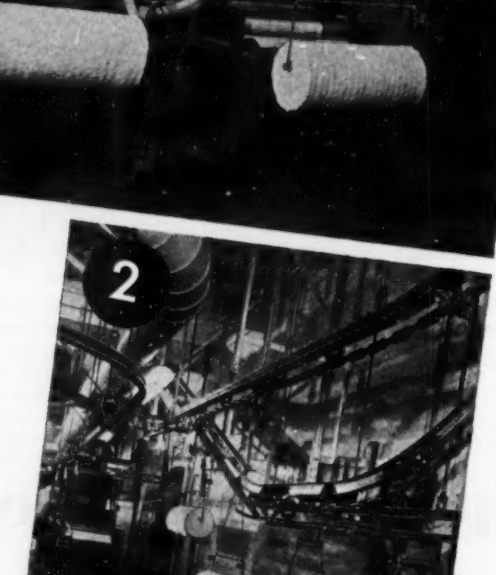
UP and OVER HANDLING
from FLOOR to FLOOR

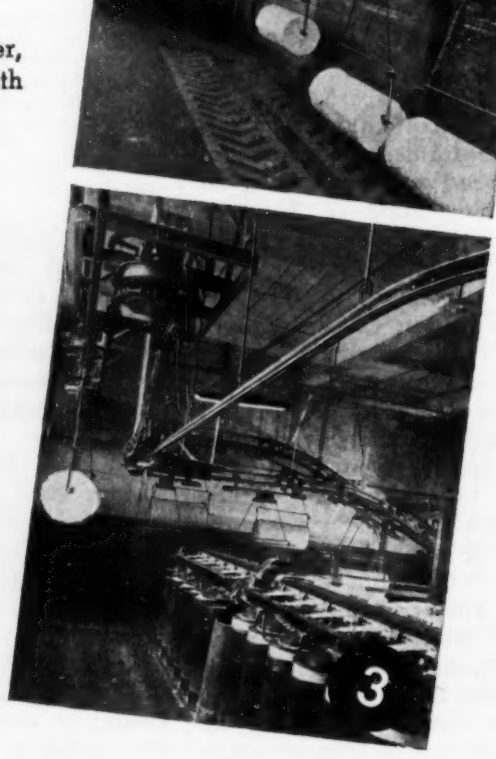


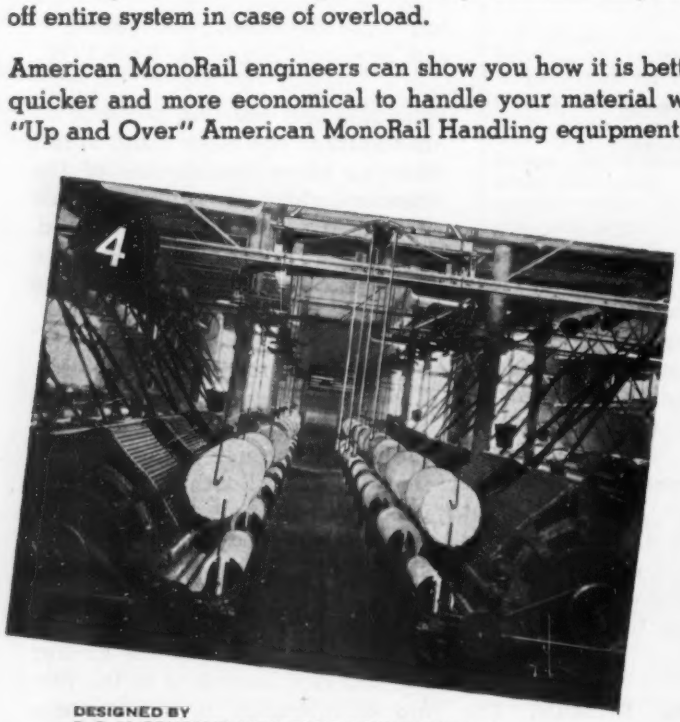
These pictures tell an unusual story of the versatility of American MonoRail "Up and Over" Handling. (1) Cotton laps are loaded on carrier at pickers. Carriers roll by gravity to scale where weight is checked. Automatic reject at scale maintains tolerance within one-half pound. Good laps feed automatically to conveyor. Rejects roll by gravity to rework storage. (2) Carriers automatically engage with booster system for transfer to card room on floor above. (3) Loaded carriers roll by gravity to storage track. Empty lap rods return for transfer to pickers on the floor below. (4) Operator pulls off nine carriers at a time to creel a row of cards.

The only manual handlng in this entire system is loading of laps at picker. Automatic handling eliminates torn laps caused by manual handling. Electric eye automatically shuts off entire system in case of overload.

American MonoRail engineers can show you how it is better, quicker and more economical to handle your material with "Up and Over" American MonoRail Handling equipment.







DESIGNED BY
P. O. M. COMPANY, INDUSTRIAL CONSULTANTS
WERNER TEXTILE CONSULTANTS
NEW YORK 17, NEW YORK

THE AMERICAN MONORAIL COMPANY

13106 ATHENS AVENUE **CLEVELAND 7, OHIO**

Loom Motors Require "Break Step" Operation

BECAUSE the frequency of operation of the reed is double that of the shuttle, and because its inertia is much greater, its motion causes by far the greatest vibration. By causing the reed motion of two adjacent looms to run 180 degrees out of phase, the vibration transmitted to the floor and thence to the building can be appreciably reduced.

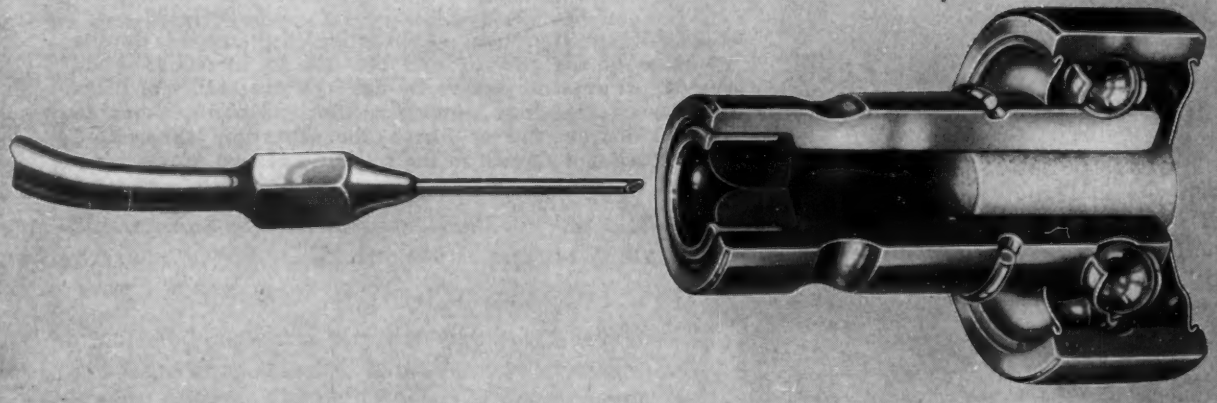
SOLDIERS "break step" when marching across a bridge, obviously to reduce the vibration and stress that would otherwise be set up in the supporting members. For a similar purpose, textile mill operators find it desirable to cause the looms to "break step," or, in engineering terms, to run out of phase. On occasions, mill buildings have been known to shake noticeably because of the effect of looms "marching in step." Vibration has actually caused damage to buildings as well as many minor maintenance problems such as friction between electrical cables and conduit and loosening of mechanical fixtures.

Each loom is driven by a separate three-phase induction motor. The Westinghouse equipment for out-of-step operation of a pair of looms consists simply of four limit switches (two for each machine) and two single-pole, normally open, magnetic relays mounted in a common control box, plus a mechanical cam arrangement driven by the crankshaft to trip the switches. The main contact of each relay is inserted into one leg of the incoming power supply of each motor so that when its relay is de-energized, only single-phase power is applied.

The limit switches and cams are so arranged that if the two looms are running exactly 180 degrees out of phase, all four switches operate simultaneously and the contact of each relay remains closed. If, however, one loom leads the other, causing the vibrations to be closer in phase, the contact in its motor circuit opens, leaving only single-phase power on the motor for a few degrees of crankshaft travel during each cycle. This reduces speed and permits the lagging loom to catch up. Out-of-phase control is important because it reduces maintenance, damage caused by vibration, and the structural bracing in mill buildings.

Vibration of looms "marching in step" has actually caused damage to buildings and loosening of mechanical fixtures. Where a large number of looms is operating in the same building, it is desirable to have the loom motors run out of phase, causing the looms to "break step."

Can you think of anything this bearing will not do for a tape tension pulley?

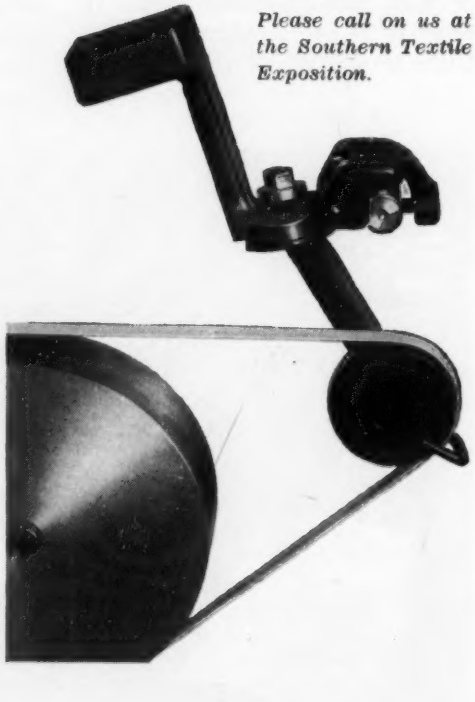


THIS New Departure ball bearing was designed specifically to be the heart of the ideal tape tension pulley. Self-enclosed against dirt and lint, it requires the addition of only a small amount of oil once every two or three years, and that is quickly injected through a built-in, self-sealing oiler. Inside, the oil is filtered through a felt wick and fed to the bearing parts as needed.

500,000 of these New Departure "specialists" in Saco-Lowell tape tension pulleys have operated over periods of nine years with no failures reported. Obviously that indicates uniform high quality.

But of equal importance in establishing this sort of a record are the lower power consumption, longer tape life, lighter tape tensions and uniform spindle speeds that these New Departure equipped pulleys help to assure.

Please call on us at the Southern Textile Exposition.



Nothing Rolls Like a Ball

NEW DEPARTURE
BALL BEARINGS

NEW DEPARTURE • Division of GENERAL MOTORS CORPORATION • BRISTOL, CONNECTICUT • BRANCHES IN ALL PRINCIPAL CITIES

Man-Handling of Coal Eliminated with

Coal Handling Conveyor System

Screw-type conveyors move coal from rail siding to silo and from silo to boiler room.

A NEW coal silo and storage bin incorporates a screw-type conveyor system to eliminate manual handling of coal.

Formerly, five men were required for a full day to unload each shipment of coal as it was received in carload lots. Then the coal had to be moved from the receiving bin to the boiler room, requiring additional labor.

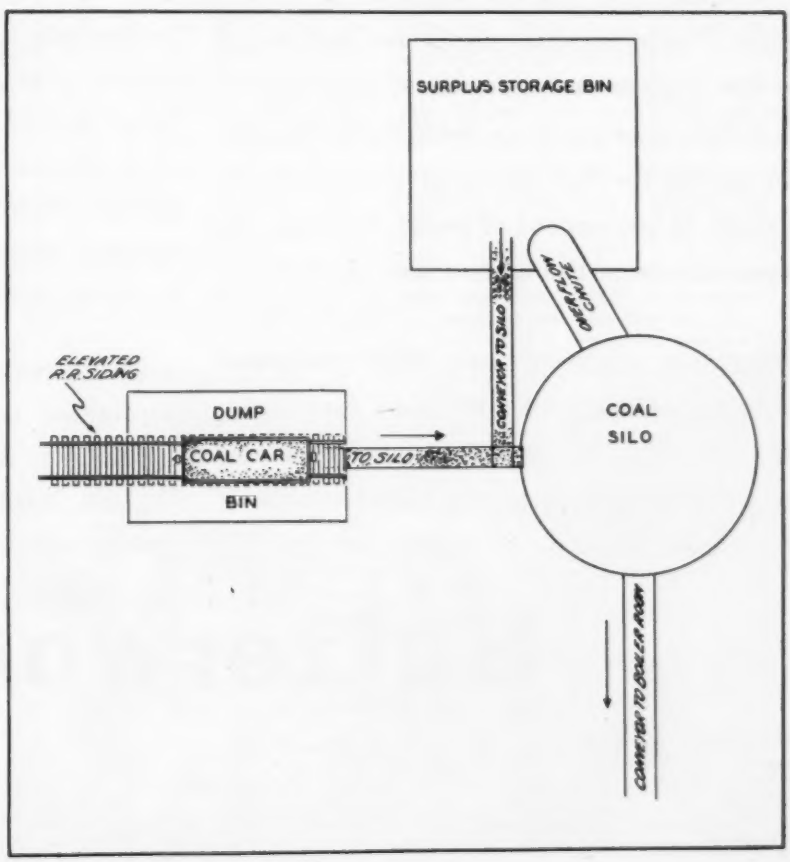
The accompanying illustration shows a diagrammatic layout of the new conveyor system, which takes care of overflow supplies and provides for replenishing the silo when the surplus supply has to be used due to late deliveries.

Upon arrival, the coal car is delivered to an elevated siding. Here the coal is dropped through the chutes into a receiving bin. The conveyor moves the coal from the receiving bin to the base of the silo, and up to the top where it is dumped into the silo. When the silo becomes full, an overflow chute provided on the side of the silo directs the coal into a surplus storage bin.

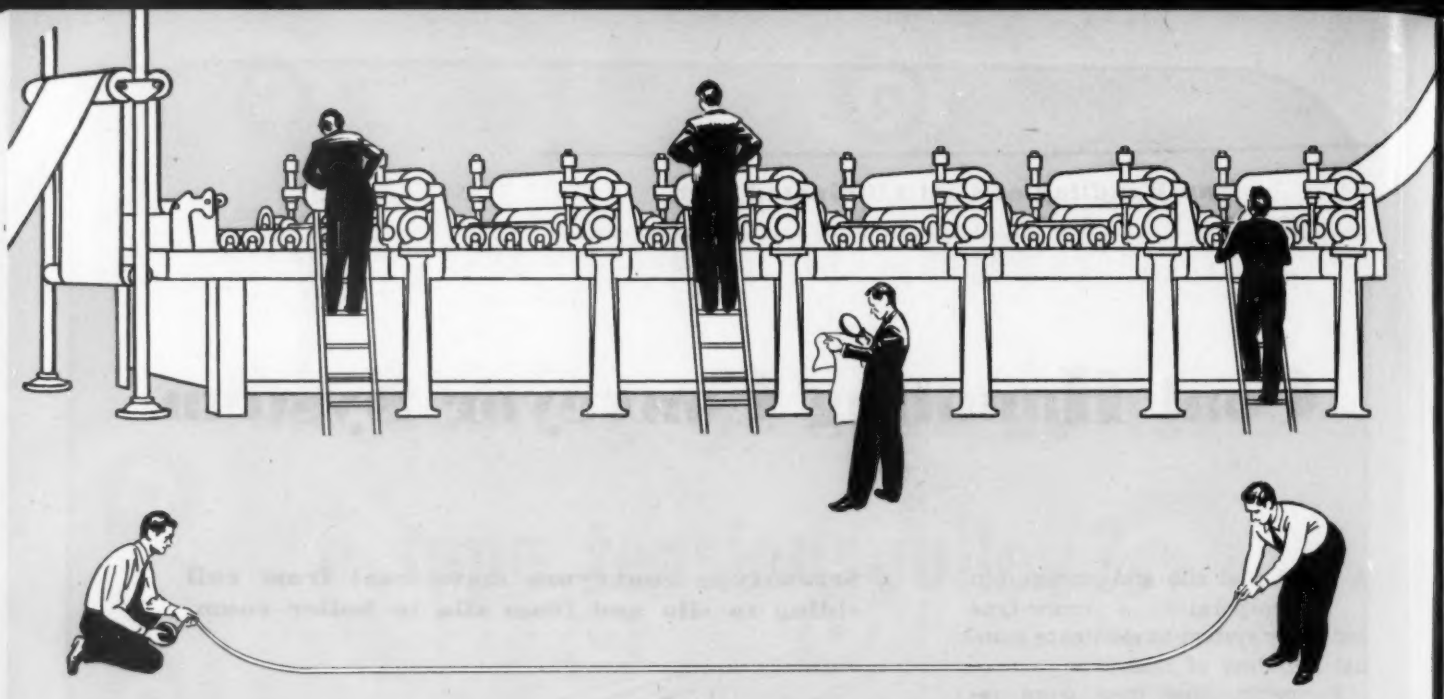
Another conveyor transfers the coal from the silo to a set of scales mounted above a pulverizer in the boiler room. The scales make an accurate record of the coal used, in 200-pound integrals, and discharge the coal into the pulverizer which prepares the coal for the boiler.

Another part of the conveyor is connected to the surplus storage bin, but this conveyor does not operate unless the supply of coal in the silo is near exhaustion. If the supply in the silo is low, this conveyor is started, and coal is transferred from the surplus storage bin to the silo, and from there to the boiler room.

This arrangement eliminates costly labor which would otherwise have to be used to handle the coal and transport it to the various storage facilities and to the boiler room where it is used.



Schematic diagram of coal handling conveyor system. Elevated rail siding is shown at left with receiving bin underneath. Conveyor arrangement to silo, surplus storage bin, and boiler room are shown at right.



Want to add 128 years to your experience?

How would you like the assistance of trained textile finishing experts on your mill staff backed by 128 years of experience at no extra cost to you? Every time you buy a Butterworth Machine, you receive the full benefits of 128 years of experience in the wet end of textile finishing—an experience unequalled in the textile industry.

Butterworth engineers study your production problems—fabrics being processed, space limitations, length of runs, and many other additional factors. They recommend the proper equipment to increase production and lower costs.

Find out about Butterworth Compartment washers that run at speeds in excess of 200 yards per minute. Find out about the Butterworth High Speed Automatic Tenter which can handle fabric at speeds of 200 yards per minute. Find out about the new Butterworth Streamlined "J" Boxes with specially designed reels and mechanism for high speed operation.

And only Butterworth designs, builds and installs a complete range of equipment for bleaching, mercerizing, dyeing, printing and finishing. Get the full details on Butterworth equipment by writing today.

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The Development and Application of

Crease Resistant Finishes

Article 2*

By A TECHNICAL CORRESPONDENT

(Ireland)

THE DISCUSSION on crease resistant finishes is continued in this second and final installment. In this article, the author covers some of the characteristics of resins, the application of these resins, some precautions to prevent variations in results and preparation of the fabric prior to applying the finish. Treatment of print goods, resin impregnation, baking or curing, and after-treatments are included in the discussion.

ONE OF THE drawbacks of all resin condensates for crease resistant finishes is the fact that they are not fast to alkaline washing and after repeated laundering, the finish will be removed from the fibers. Urea-formaldehyde resins have been applied widely because of their ease of application. From this point of view, melamine resins have equally good properties with the additional advantage that they are faster to alkaline washing and give more permanent effects.

The quality of permanence is very important and the property of penetration should always be kept clearly in view. The melamine resins have very good water resistance in addition to their alkaline fastness, and they have been used to give very useful water repellent finishes to fabrics. These treatments allow the fabrics to retain their air-porosity.

The practical application of these resins requires three operations as follows:

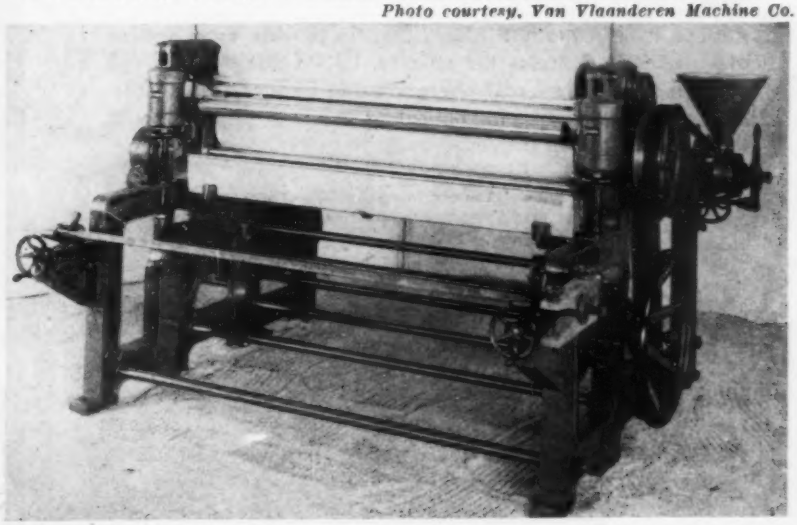
1. Swelling of the fibers into which the resin must penetrate. This is accomplished by wetting out with aqueous solutions or dispersions of the resin. The water acts as the swelling agent, particularly in the case of rayons.
2. Good solution or dispersion of the unpolymerized resin monomer.
3. The removal of surplus resin from the surface of the fiber prior to polymerization.

With reference to the second point, melamine resins may be prepared in the water soluble state. Surface or surplus resin is removed by squeezing through a two-bowl or three-bowl hydraulic mangle. The removal of this surplus is a very important factor, and if it is not removed, such surface deposits of resin will become polymerized during the baking treatment, thereby causing unwanted stiffening of the fabric as the result of deposition on the outer surfaces of the fibers.

With this object in view, the mangle should be adjusted to leave not more than 80 per cent of resin on the weight of the fabric after squeezing. If possible, only 60 per cent should be left on the weight of the goods so that the removal of all surplus is assured together with thorough pen-

The removal of surplus resin is a very important factor. A machine such as the quetsch padder shown here may be used for this purpose.

Photo courtesy, Van Vlaanderen Machine Co.



*The first article of this series appeared on page 151 of the September 1948 issue.

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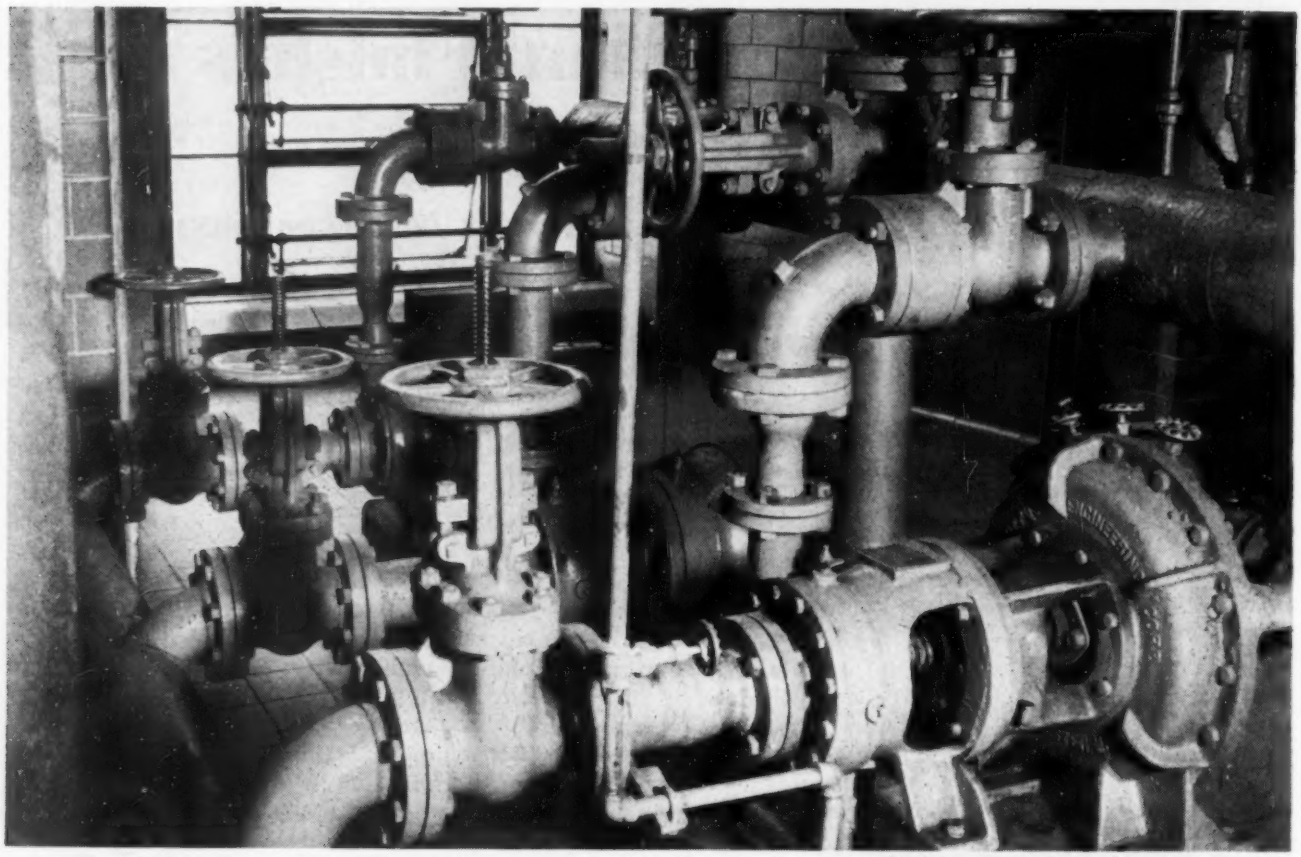

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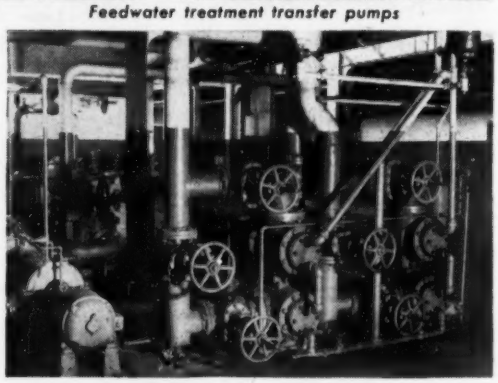
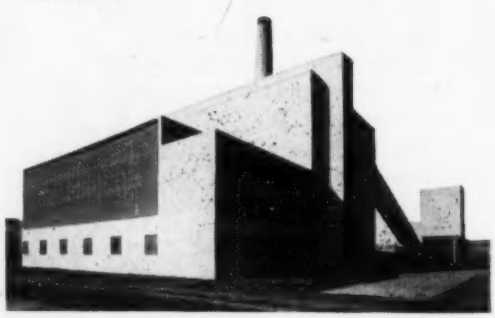


Air Compressor after-cooler



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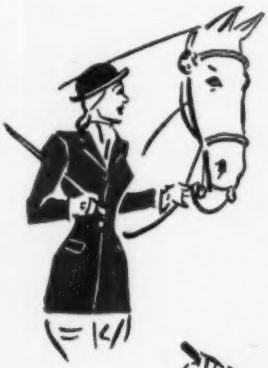

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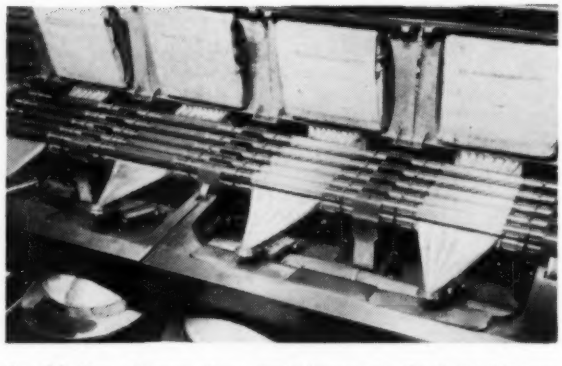

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etration of the resin components into the fibers.

Two further steps are necessary to complete the process:

4. Baking or curing at temperatures ranging from 130° C to 170° C is required to complete the polymerization and fixation of the resin in the fiber so that the finish is fast to washing. Where care has been exercised during all stages, examination under the microscope will show that the resin is uniformly distributed throughout the body of the fibers.
5. The final stage is that of washing for the removal of any surface resin and the breaking-down of any slight stiffness which has developed during the foregoing processes. The final result should be a considerably heavier fabric, the characteristics of which have not been interfered with so far as softness and hand are concerned, while crease resistance, washability, and wet strength (in the case of rayons) have been improved considerably.

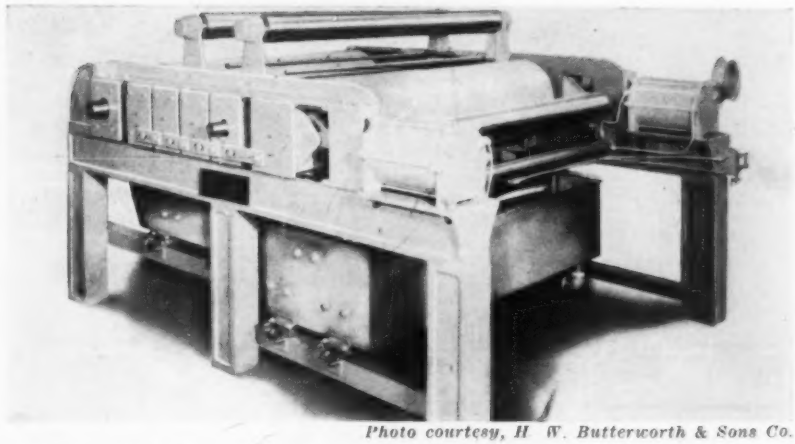


Photo courtesy, H. W. Butterworth & Sons Co.

A six roll horizontal washer. Air pressure provides control of rolls.

Factors in Resin Variations. In all treatments of this type it should be kept in mind that each class of fabric must be treated according to its own characteristics. Each type of fiber is capable of absorbing a certain maximum of resin beyond which point stiffness or brittle surfaces are likely to develop. Fabrics which have already been dyed, particularly with sulphur dyestuffs, where a certain amount of pigmentation takes place, are not as easy to treat as undyed fabrics.

All types of fibers which swell easily will naturally absorb more resin than unswollen fibers and, in this connection, loosely twisted yarns will carry more resin than those which are tightly twisted. Mercerized cotton, which is already swollen by the caustic treatment, will be more easily penetrated by the resins than plain cotton. The swelling properties of viscose rayon insure thorough penetration of resin.

The advantages of the use of wetting agents on spun rayon are worthy of consideration, from the point of view of promoting fiber swelling and good penetration of aqueous solutions or dispersions of the unpolymerized resin products.

It has been shown that the condition of the resin during application has a definite influence on the final results. For instance, urea-formaldehyde applied in aqueous solution as compared with the application of condensates in various stages of polymerization, and aqueous colloidal solution or dispersion have been shown to produce final results with marked differences in resistance to abrasion. In some instances, it has been shown that very high polymers in colloidal dispersions give much better wear resistance than resins applied from true aqueous solutions.

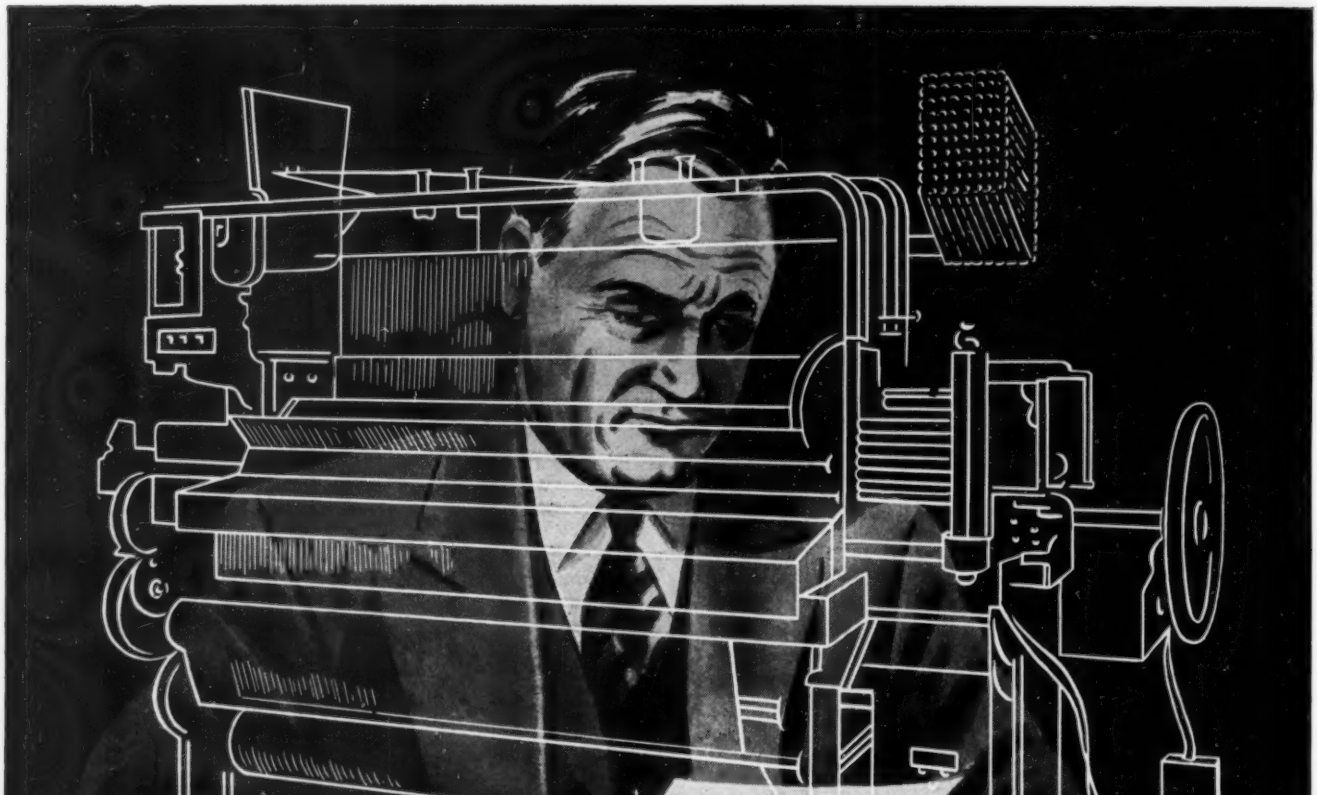
Most of the fabrics so treated today contain from 10 to 15 per cent of deposited resin. The fabric characteristics remain practically unchanged regarding color, appearance, and hand. The resilience of the fibers is very much improved and in some instances it is more than doubled, while wearability or resistance to abrasion may be increased as much as five times.

Preparation of Fabrics. It has been repeatedly stressed that one of the first essentials for good crease resistant finishes is penetration. This cannot take place thoroughly unless the fabric has been well prepared for reception of the resin. The first essential here, particularly for cottons, linens, and spun rayons, is complete de-sizing of the fabric prior to resin impregnation.

The majority of sizing is done with starchy products, largely because of their binding properties, flexibility, and powers of penetration. Such products can only be removed from fabrics by thorough treatment with de-sizing agents in the form of diastatic enzymes of which malt extract and similar bodies are the most effective. This fact should be borne in mind because it has been established beyond doubt that complete removal of starch bodies from fabrics cannot be attained without the application of de-sizing agents.

Thorough treatment depends upon contact of the fiber with the de-sizing solutions at an optimum temperature of approximately 140° F. When malt extracts are used, the starch solubilizing power deteriorates above this temperature. Some of the more rapidly acting diastases may be used with good effect when the temperature is 180° F. The pH value should be maintained in the region of 6.6 to 6.8. Attempts are sometimes made to carry out de-sizing of this type by impregnating the fabrics with the diastase solution (1 per cent concentration) and allowing the goods to lie overnight. This is rarely effective where fairly high percentages of size have been used.

After contact with the de-sizing solutions at an optimum temperature and pH value for at least one hour, the fabric should be very thoroughly rinsed in boiling water for complete removal of the solu-



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bilized starch. This is an important step, because failure to remove the degraded starch products leaves the fabric in a very unsatisfactory condition for further processing. The hot rinsing operation should be performed in a slack washing machine, especially when spun rayon fabrics are treated.

When linen or cotton fabrics are to be scoured, a lime boil should be avoided because calcium salts have a fixing action on starch residues which cannot be removed afterward by treatment with malt extract, etc. Any bleach treatments should be carried out either with hydrogen-peroxide or sodium-hypochlorite.

Treatment of Print Goods. The principal factor in the treatment of print goods is the removal of surplus thickening such as starchy bodies used in the preparation of the print pastes. This is especially the case where blotch patterns have been printed and the amount of starchy thickening applied to the cloth is in excess.

With some classes of dyestuffs, there is considerable danger of fixation of starchy thickenings as, for instance, in the use of chrome mordant dyestuffs or the use of the chromate process in the fixation of soluble leuco-esters of vat dyestuffs. Both of these processes depend upon the use of chromium salts for the fixation of the dyestuffs and the chromium has a fixing action upon the starches used in the thickening, and there is consequently more difficulty in removing such thickenings during the final washing-off processes. It is possible to avoid such starch complexes by changing the nature of the dyestuff fixation process, and this should always be done where softness of the finished fabric is a first consideration.

When vat dyestuffs are used for printing, the danger of starch fixation is not so great except where bichromate of soda or potash is used as the oxidizing agent in the final development of the colors. Here again a change may be made in favor of perborate of soda, ammonium per-sulphate, sodium peroxide, etc., all of which have good properties of oxidation without any danger of starch fixation. Thorough slack washing and, where fast dyes are used, soaping at or near the boil will remove all surplus thickening and dyestuff so that the fabric is in a thoroughly clean and easily penetrated condition, ready for further treatment.

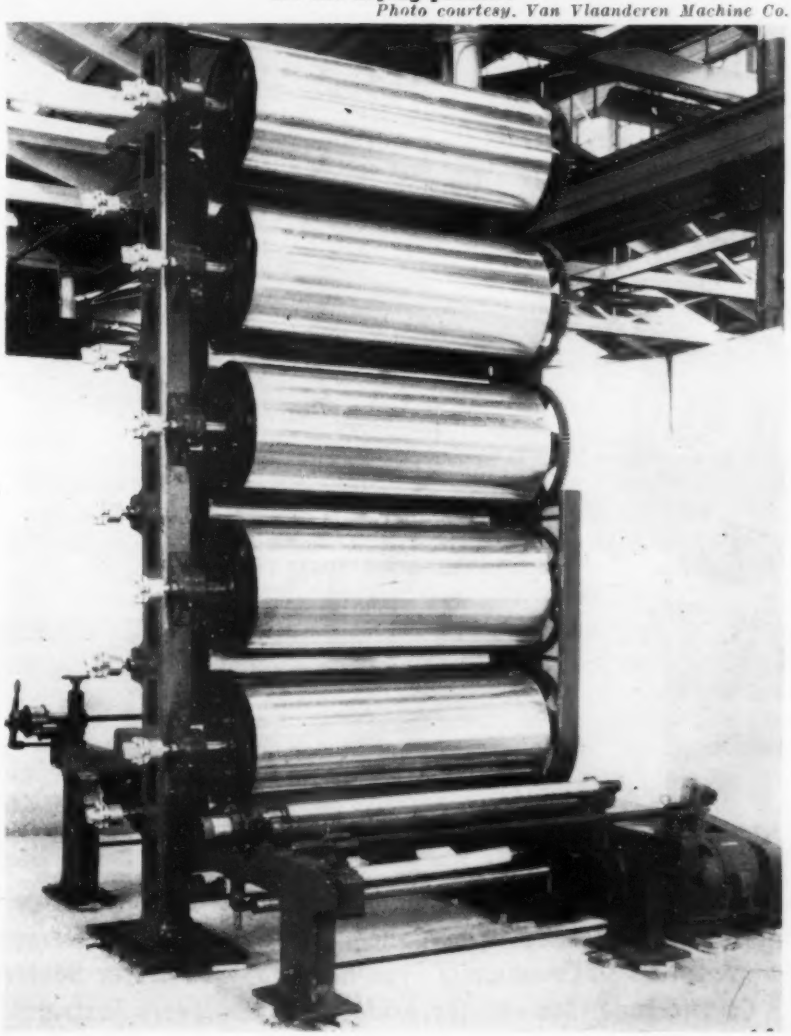
Resin Impregnation. The impregnation unit consists of a two-bowl or three-bowl mangle located in front of a tenter frame. The mangle should have two rubber upper and lower bowls with a middle brass. Sometimes it is preferred to use a wooden upper bowl to prevent slippage which may cause damage in the case of spun rayons.

Thorough impregnation and squeezing is attained by the well known method of two dips and two nips, and the cloth should contain not more than 80 per cent (of its weight) of the resin solution or dispersion, but preferably as little as 60 per cent after passage through the mangle prior to drying on the tenter.

There are some differences of opinion regarding preliminary drying on the tenter prior to final curing or baking. Preliminary drying should take place as slowly as possible, in order to allow thorough penetration of the resin. Strong drying immediately after impregnation tends to allow the migration of resin particles from the inner portion of the fabric to the surface. This causes surface resin formation which, in turn, will lead to stiffness after curing. Consequently, after the final washing there is a loss in crease resistance and other desirable properties. For this reason, preliminary drying should be done on a tenter on which the hot air de-

"Where preliminary drying is done on drying cylinders after impregnation, the first few cylinders should be wrapped in order to graduate the drying process."

Photo courtesy, Van Vlaanderen Machine Co.



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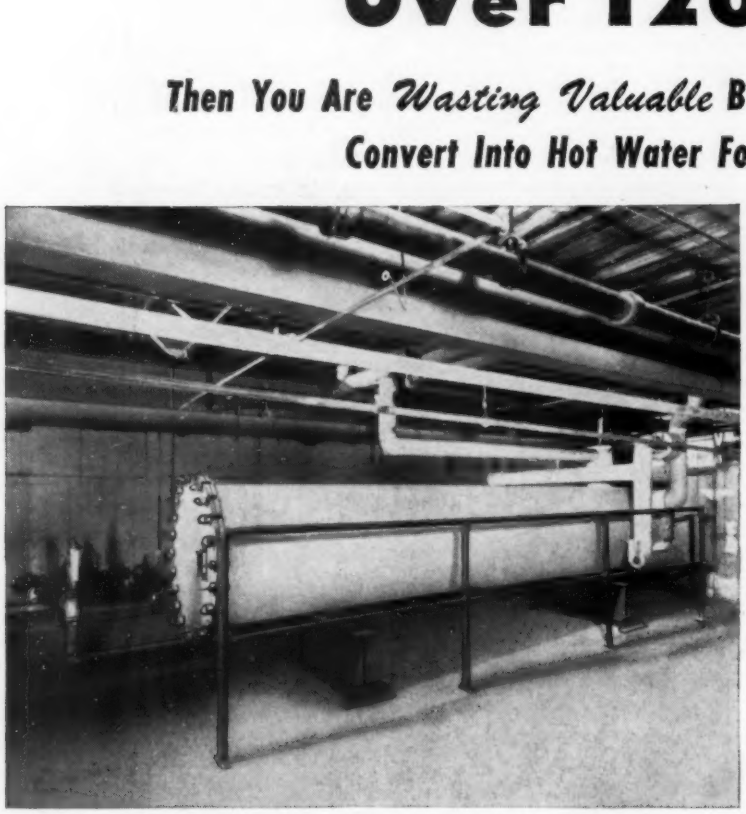

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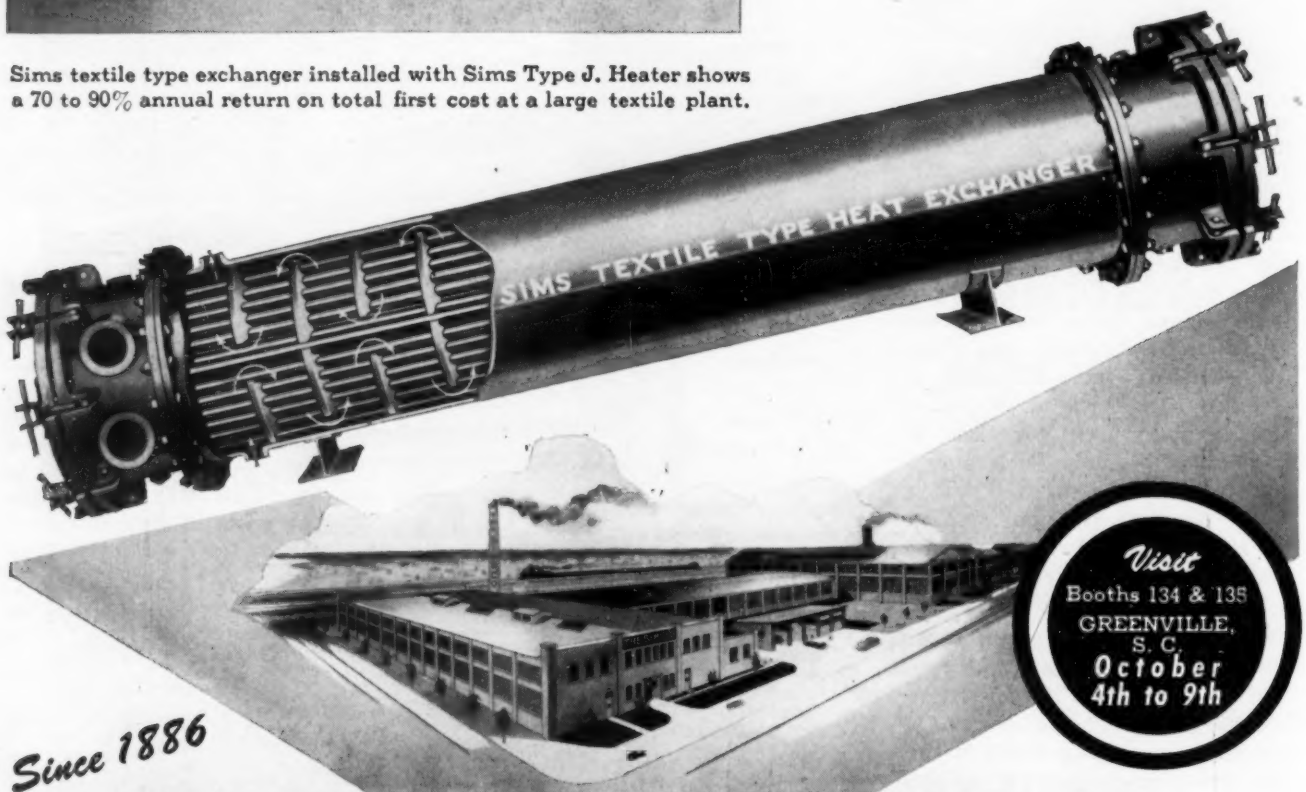

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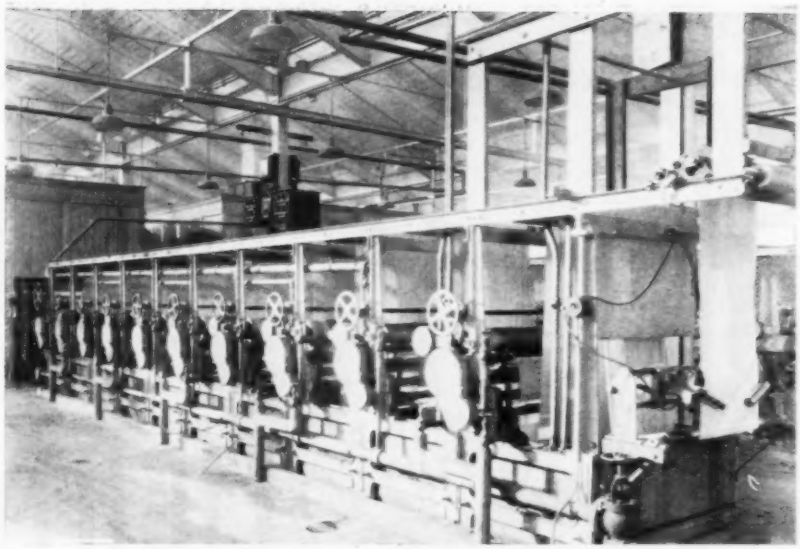
livery arrangements are manipulated to give much faster drying at the delivery end than at entry.

Where preliminary drying is done on drying cylinders after impregnation, the first few cylinders should be wrapped in order to graduate the drying process. Steam inlet arrangements for drying cylinders can be made so that the temperature of the first few cylinders is much lower than those used in the final stages of drying. Tenter drying should be done at temperatures lower than 100° C.



This ten compartment soaping machine finds application in processing large quantities of goods in the finishing operations.

Curing or Baking. Attempts have been made to produce resin finishes which do not require a curing or baking treatment. Up to the present time, such attempts have not met with much success, and all useful processes applied on a large scale depend upon a curing treatment of from three to four minutes at approximately 170° C for polymerization of the resin within the fiber interstices.

Opinions differ regarding the type of curing treatment necessary, but it should be noted that the details depend upon the type of fabric being processed. A curing treatment which will give the desired result on a light weight cotton fabric would be quite ineffective on heavy spun rayon.

Much successful curing is done in baking chambers with thermostatically controlled electrical or gas heating equipment. Festoon arrangements for carrying the cloth through the baking chamber have been used successfully in some instances, but for fairly heavy fabrics, such arrangements have disadvantages in that they cause uneven fixation of resin. This is attributed to differences in temperature over the cloth area. In every instance the objective should be to maintain an optimum temperature for completion of the reaction in the minimum time with a minimum of tension on the fabric during the process.

Attempts have been made from time to time to produce resin finishes with reduced quantities of resin, using much longer periods of curing. B.P. 451082 provides an instance where the fabric is impregnated with 1 per cent urea-formaldehyde resin and is heated for two hours at 120° C. Such processes have found no general application because of the time required for curing. The fastness to washing of all such finishes is of paramount importance and it is necessary that the reaction should be completed during baking.

The use of catalysts accelerates the reaction and insures completion in a minimum of time. Such catalysts as tartaric acid and ammonium tartrate are used to insure wash fastness. Original patents provided for the use of mineral acids in the reaction mixture, but this had the disadvantage of causing premature precipitation in the impregnation bath. Later, this was overcome by the use of the ammonium salts of such acids.

The danger of tendering with mineral acids is greater than with organic acids. The only advantage of using mineral acids is that a finish fast to washing is attained at a lower temperature of 120 to 130° C instead of the higher temperature commonly used (170° C). On the other hand, organic acid or organic acid salt catalysts may be used up to the higher temperatures with greater assurance of freedom from tendering and equally good wash fastness.

After-Treatment. It has been noted that thorough after-treatment subsequent to baking is necessary for removal of surface resin and softening of the fabric. Another point which should be noted is the width of the goods prior to impregnation. Where fairly heavy spun rayons are being processed, it is contended that the goods should be pulled out to their maximum width prior to impregnation so that thorough penetration of the resin will take place. This insures the minimum of surface resin during drying and simplifies the problem of after-treatment.

Slack washing is the most common type of after-treatment for spun rayons, using a very mild alkaline scour (.25 per cent solution of soda ash together with a suitable wetting agent). A very short treatment of from four to five minutes will usually suffice. Prolonged treatment with alkaline liquors at high temperatures should be avoided because it is likely to lead to poorly finished goods.

Where for any reason finishes are unsatisfactory or uneven, they may be removed from the fabric by treatment with hot diluted mineral or organic acid washes. Care should be taken to insure that tendering does not take place by prolonged treatment.

For purposes of identification, a small piece of the fabric should be burned. The odor of formaldehyde indicates the presence of urea-formaldehyde resins, and a fishy odor indicates the presence of melamine resin.

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Thawing Frozen Water Pipes —with Electric Welding Equipment

THE USE of electric welding equipment to thaw frozen water pipes has been practiced successfully by a number of plant owners during the past few winters, according to the General Electric Company. Welding equipment offers advantages over other electrical means because it is self-regulating and can be accurately controlled. In addition, it is being put to good use in a season when it might otherwise remain idle.

No special equipment is necessary for doing this work other than reliable pipe clamps for making firm electrical connections. Strap-type clamps of copper, having ample section to carry several hundred amperes, are desirable. C-clamps may be used to clamp cable terminals directly to the pipe where necessary. A file, rasp, or abrasive cloth may be used to remove zinc oxide, rust, paint, and grease to assure a good electrical contact.

Cable should never be wrapped around the pipe as a connection, since it is practically certain to loosen, and may cause hazardous sparking. Ordinary pipe wrenches are required for disconnecting piping. A portable voltmeter is useful for checking voltage drops and determining the continuity of circuits.

The connections to the welding generator are made in the ordinary way with the work lead and electrode lead both connected to the pipe on opposite ends of the frozen section so that the heat generated in the pipe wall by the passage of current will thaw the ice in the pipe. The method of getting at the pipe will vary in almost every case, but for economy, it is desirable to get as close to the frozen portion as is feasible without excessive digging in frozen ground. It is desirable to set the machine at the lowest current output adjustment at the beginning of a thawing interval in order to permit checking connections with the least likelihood of flashing.

Although the proper current for thawing pipes has been established as between 200 and 500 amperes, the time needed to complete the job varies greatly according to the size, length, kind, and location of the pipe, condition of the surrounding soil, extent of the freeze, and temperature of the air. Tables I and II will help determine the various factors involved.

The resistances given are for direct current, but the reactance is so small that it can ordinarily be neglected when cables are not coiled. There are so many other variables in a given case that the voltage necessary to produce the current will be, for all practical purposes, the same for both a-c and d-c. Table III shows the maximum outputs which can be obtained

(*Continued on page* 211)

TABLE I

Pipe Diameter in Inches	Recommended Amperes	Approx. Minutes to Thaw	Recommended Cable Size	Resistance per 100 ft Cable
¼	75	15	No. 6	.0395
½	125	20	No. 2	.0156
¾	200	20	No. 0	.00984
1	250	30	No. 00	.00780
1½	300	30	No. 000	.00619
2	350	40	No. 0000	.00491
4	600	75	400,000 cm	.00270
6	800	120	600,000 cm	.00180

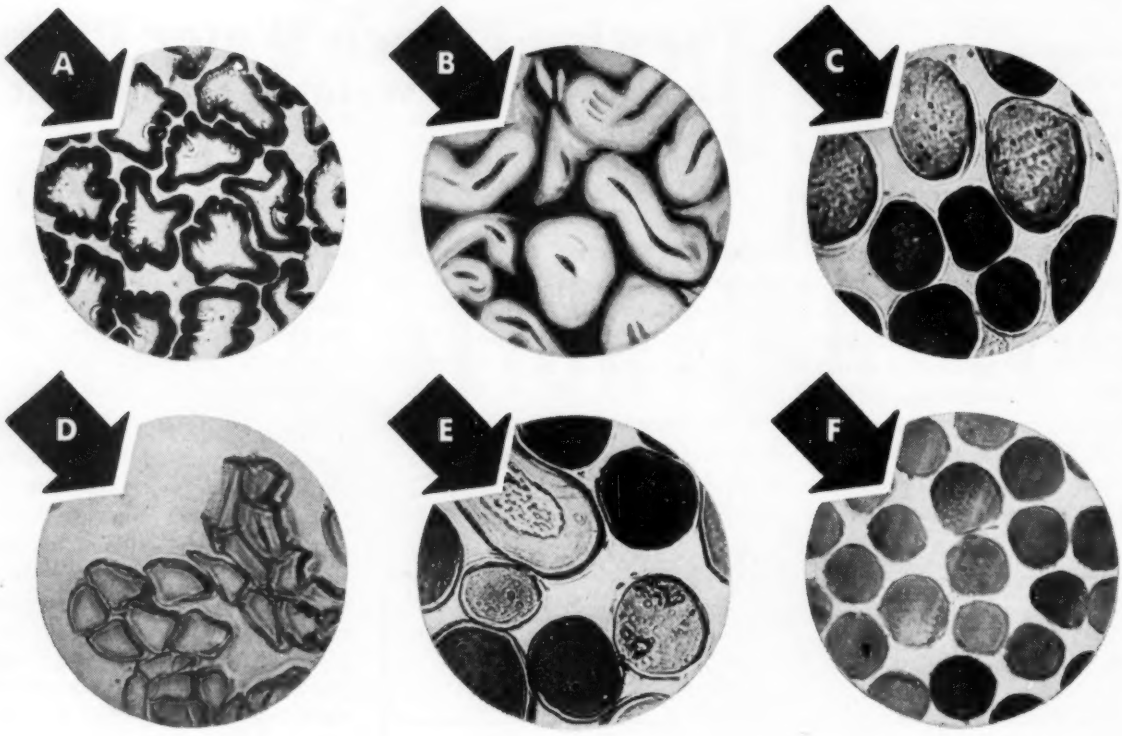
TABLE II
Ohm Resistance per 100 Ft.
Standard Pipes

Pipe Diameter	Wrought Iron	Steel	Copper Tubing	Lead	Cast Iron Class A
½	.026	.0198	.00824	.0234	
¾	.0202	.01485	.00445	.01371	
1	.0138	.0100	.0034	.00984	
1½	.00842	.00618	.00208	.0064	
2	.00625	.0046	.00133	.0053	
4					.0092
6					.006

TABLE III

Equipment	10 Volts	20 Volts	30 Volts	40 Volts
300 amp a-c welders	500 amp	450 amp	400 amp	375 amp
500 amp a-c welders	800 amp	750 amp	700 amp	625 amp
300 amp d-c welders	650 amp	600 amp	500 amp	400 amp
400 amp d-c welders	800 amp	750 amp	700 amp	600 amp
600 amp d-c welders	1200 amp	1000 amp	900 amp	700 amp

How many of these Fibers can you Identify?



PHOTOMICROGRAPH COURTESY TEXTILE FIBER ATLAS

A Viscose Rayon
B Cotton
C Wool
D Silk
E Mohair
F Nylon

You're an expert if you guessed all six. No matter how many of these fibers you named correctly, they're all vital to Stein Hall. Each of these fibers and many more are continually under the scrutiny of our laboratory technicians.

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WINDING MACHINES — *Principles and Practices*

By **JESSE W. STRIBLING**
Universal Winding Co.

Article 13—Special Package Winding

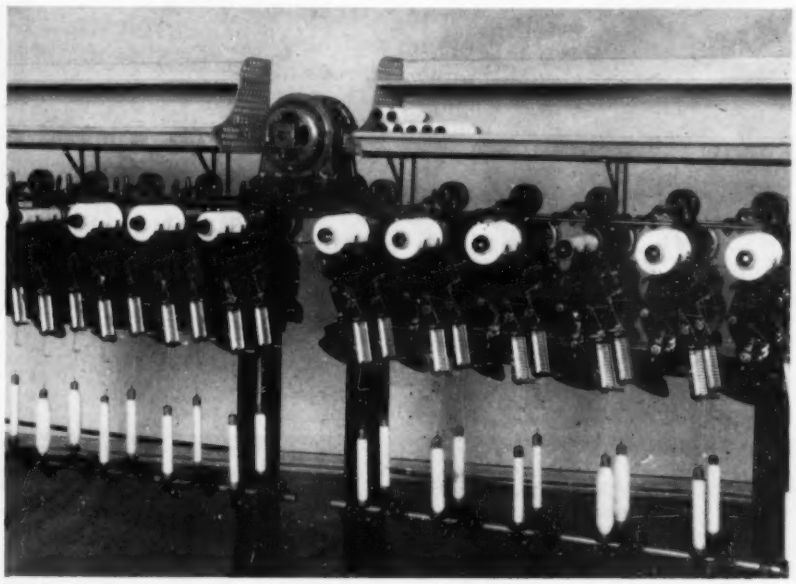
BEGINNING with this article, several attachments for the No. 50 machine will be covered which, while they may be called special, are widely used. Included in this article is a discussion of two-cop winding; multiple-end winding; the two-rod differential tension for multiple-end winding; and the heavy differential pressure attachment for the two-rod diff tension attachment.

PREVIOUS articles in this series have dealt with the No. 50 machine for winding natural and synthetic yarns on regular cones and tubes as widely used in the sales yarn market. In addition to those attachments previously covered, there are a number which are not so widely used but which, while they may be called special, are widely enough employed to be included in the series. No attempt will be made to discuss the large number of those very special attachments which are used rarely by the average mill.

Two-Cop Winding

One of the most widely used of these special attachments is for winding two packages per spindle, which permits approximately double the production that would be obtained if only one package were wound. Since the maximum length of traverse which can be wound on the No. 50 is six inches, it is obvious that if two packages are to be wound per spindle with standard parts, each package must not be over three-inch traverse. However, special attachments are available which will permit winding two packages per spindle, each with 5-inch traverse, or three packages per spindle, each with 3½-inch traverse.

Fig. 82. No. 50 machine with two-cop attachment for winding two Franklin springs, each with 2¾-inch traverse, per spindle.



In any case, the length of traverse on each package determines the cam to be used; *e.g.*, in winding two 2½-inch-traverse packages per spindle, a 2½-inch cam is used.

In winding two cops (tubes) on each spindle, special parts are needed as illustrated in Fig. 82. This illustration shows the No. 50 winding two Franklin dye packages per spindle. The same attachment, except for the cop holder, is used for winding braider cops or any other packages not having over three-inch traverse.

In winding two Franklin springs per spindle, a 2¾-inch cam is

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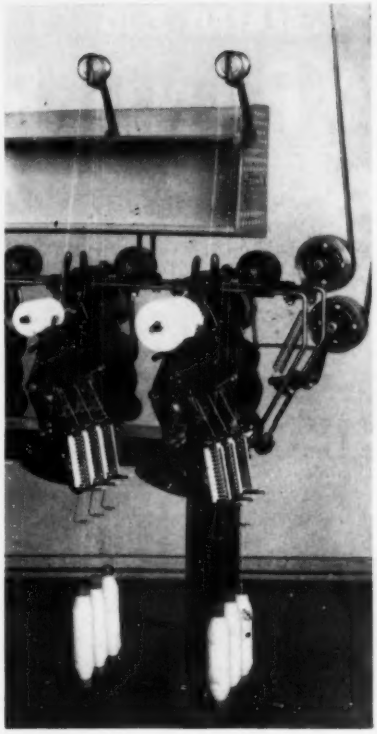


Fig. 83. Winding three ends on one package, as used in winding braider cops.

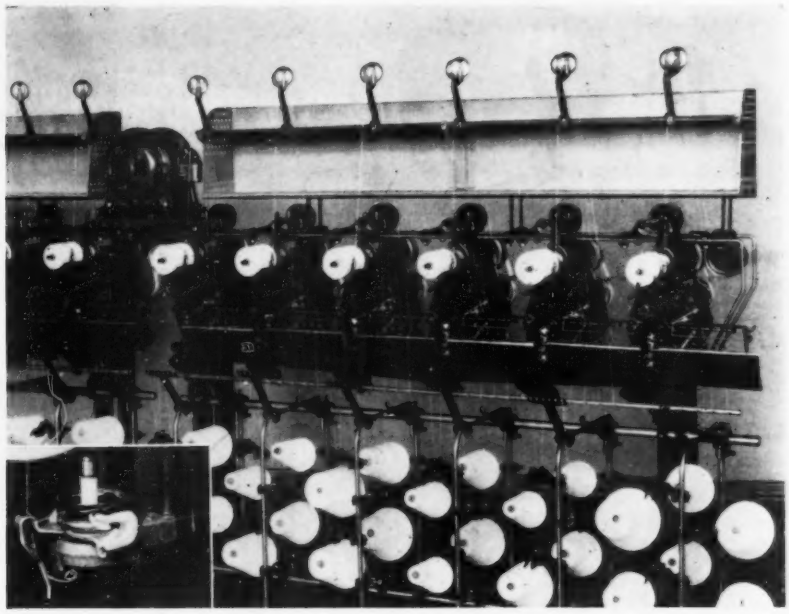


Fig. 84. Multiple-end winding on the No. 50 with cone creel supply attachment. Inset shows type of disc tension used for each end.

used. Other traverses are used for the various other kinds of two-cop winding, depending upon the traverse wanted.

It will be observed from Fig. 82 that there are two finger tensions for each spindle, and each tension includes a slubcatcher and an individual breakage lever for each end, so that when one end breaks or runs out, the spindle will stop.

A special traverse bar is required, which is made to hold two thread guide assemblies which are properly spaced to locate the yarn on each package.

Each of the two tensions is fitted with an individual diff tension lever, and the regular tension weights are used. Pressure weights are also provided, and there is nothing special about the settings of these tension and pressure weights. The principles of winding suitable packages, as covered previously in this series, will apply to two-cop winding the same as for single end winding. However, it should be borne in mind that for dye-package winding, a very soft package is desired. This is obtained by using light tension and pressure weights.

In winding braider cops, or other packages where it is desirable to get as much yarn as possible on each cop, heavy tension and pressure are used.

For dye-package winding, the belt gain attachment is generally used, but the gainer pinion is adjusted so that an open wind is produced. For braider cops, on which the two-cop attachment is widely used, or other types of winding on the two-cop attachment, the belt gain is adjusted to produce a close wind.

Multiple-End Winding

Where two or more ends are to be wound on one spindle, the multiple-end attachment is used. There are two types of multiple-end attachments:

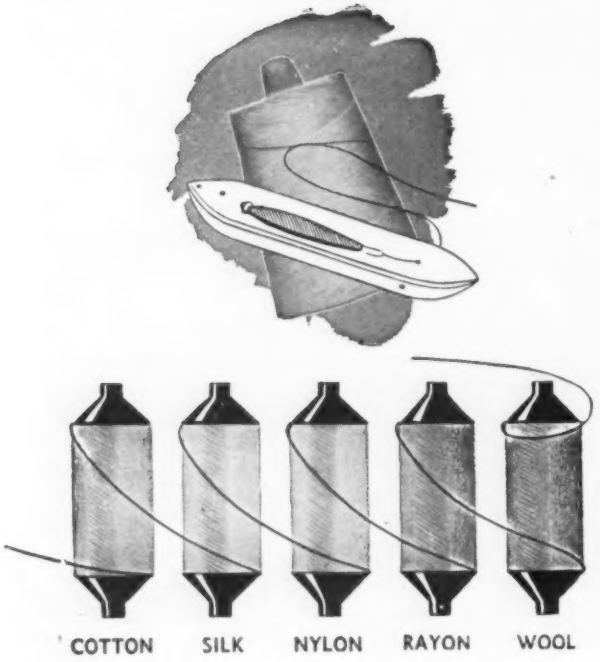
1. Up to four ends are wound with finger tensions, as shown in Fig. 83. This illustration shows the three-end attachment, but four tensions may be used side by side instead of three as shown.

2. For over four ends per spindle, the cone-creel supply attachment is used, as shown in Fig. 84.

In either type of multiple-end winding, an overhead thread roll is used, as shown in the illustrations, to give a longer length of yarn between the breakage levers and the thread guide. (A special thread guide, with a bail to hold the yarn in the guide, is also used.) When one of the ends breaks or runs out, its breakage lever will fall and stop the spindle before the broken end will have time to reach the thread guide. The overhead thread roll permits each broken end to be tied up individually without having to unwrap some of the folded yarn from the package.

Where finger tensions are used (up to four ends), individual diff tension attachments are provided as covered under two-cop winding at the beginning of this article. In winding more than four ends per spindle, with cone-creel supply attachment as shown in Fig. 84, there is an individual disc tension for each cone of yarn, and it will be observed that with such a tension there can be no differential to release applied tension as the package increases in diameter. Since most multiple-end winding is for braider cops or other packages requiring heavy density, and generally wound to a small outside diameter, it is not usually found necessary to release tension as the yarn speed increases. However, a method of releasing the tension can be provided if required, and this method will be discussed later in this article.

It should be pointed out that, where the cone creel supply attachment is used, no slubcatcher is provided, it being unnecessary since it is common practice to wind from cones or tubes as a sup-



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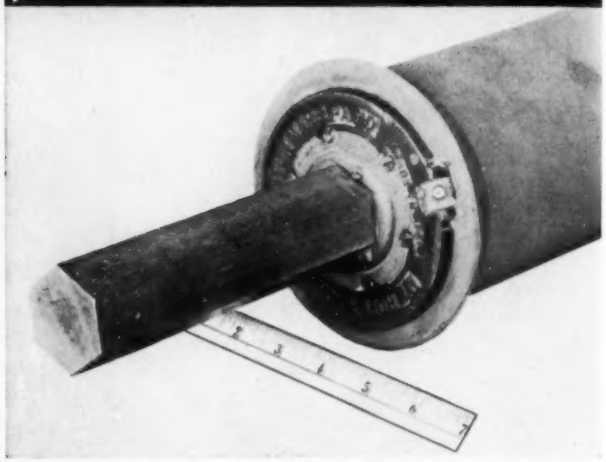

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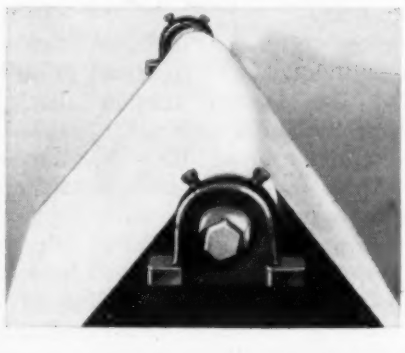

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TABLE 11

Number of Ends and Size of Packages for Creel Supply

Spindles per Gang	Legs	Maximum Pkg. Diam. in Creel	Maximum Ends per Spindle	Number of Rows	Pkgs. per Row
6	Std.	8"	3	2	1&2
6	Long	8"	4	2	2
6	Std.	4½"	8	2	4
6	Long	6"	8	2	4
6	Long	5"	10	2	5
6	Long	4½"	12	2	6
5	Std.	8"	4	2	2
5	Long	10"	4	2	2
5	Std.	4"	8	2	4
5	Long	6½"	8	2	4
5	Std.	3"	15	3	5
5	Long	4"	16	3	5&6
4	Std.	7"	6	3	2
4	Long	7"	8	2	4
4	Std.	4"	12	3	4
4	Long	6"	12	3	4
4	Std.	3"	20	4	5
4	Long	4"	20	4	5&6
3	Std.	9½"	6	4	1&2
3	Long	10"	8	4	2
3	Std.	4½"	14	4	3&4
3	Long	7½"	14	4	3&4
3	Long	4"	24	4	6
3	Std.	3"	30	6	5
2	Std.	9½"	9	6	1&2
2	Long	10"	12	6	2
2	Std.	6"	18	6	3
2	Long	8"	18	6	3
2	Std.	4"	30	9	3&4
2	Long	5½"	30	6	5

ply, as shown in Fig. 84, and the yarn will have been previously slubbed in the single-end winding.

While Fig. 83 shows three-end winding from spinning bobbins, it probably would be less expensive from a labor standpoint to use cones as a supply instead of bobbins. Every time a bobbin runs out, the spindle is stopped and production on the other ends is lost. With a cone supply, the stoppage on multiple-end winding is much less, with the result that production is increased and labor cost is decreased, in most cases to an extent sufficient to pay for the single-end winding of the cones. In winding more than four ends per tube, there is no question about the total labor cost being less where the yarn is first wound single end on cones.

It can be seen from Fig. 84 that the space underneath the machine is limited, which places a limitation on the number and size of cones which can be run per spindle on the regular 6-spindle machine with long bed (11 inches between spindles). For example, Fig. 84 shows four ends per spindle being wound from normal-size cones. More cones per spindle can be accommodated by using smaller diameter cones, or by changing the bed of the machine and using fewer spindles per gang, thus providing more space per spindle underneath the machine. Also, longer legs may be used, which will give more space.

Table 11 shows the maximum number of ends per spindle which can be wound for various numbers of spindles per gang, for standard and long legs, and it also shows the maximum diameter of supply cone or tube which can be used with each.

If necessary to change the number of spindles per gang in order to wind a greater number of ends per spindle, new beds must be obtained which are provided with proper holes for locating the spindles per gang specified.

Two-Rod Diff Tension

As stated previously in this article, the cone-creel supply for multiple-end winding includes disc tensions, which do not permit releasing tension as the yarn speed

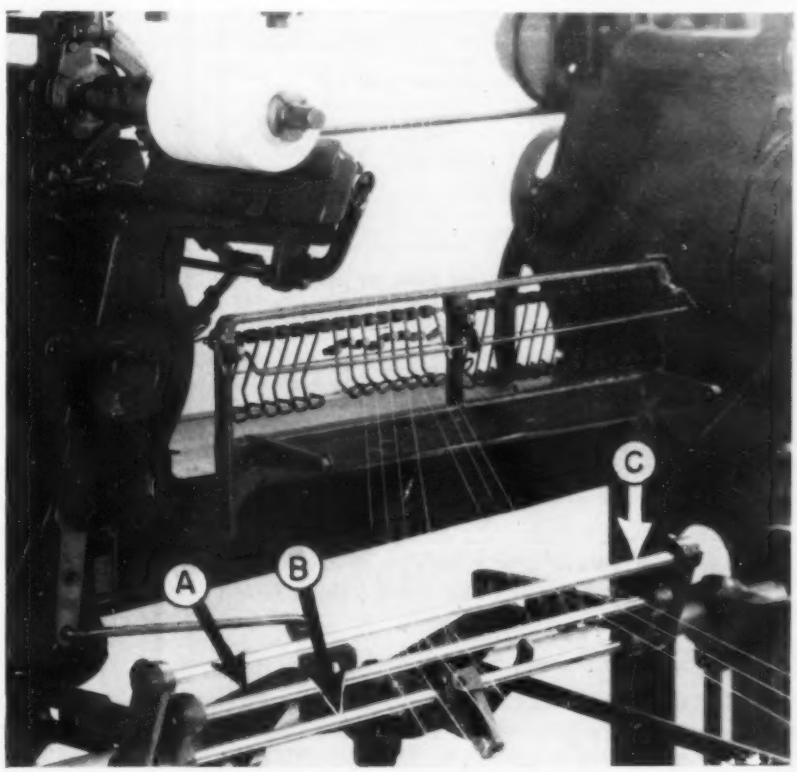

Fig. 85. The two-rod differential tension attachment as used with cone creel supply to reduce tension on yarn as the package increases in diameter.

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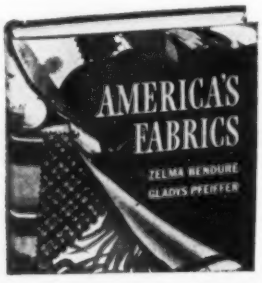

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increases. The tensions used are the same as on cone creels for high speed warping, and a close-up view of this tension is shown in the inset of Fig. 84.

When large-diameter, multiple-end tubes are wound with cone creel supply, and the packages have a tendency to bulge at the ends, the two-rod differential tension attachment, as shown in Fig. 85, can be used to offset this condition. The device consists primarily of three parallel rods per spindle. The center rod (A) is fixed in two brackets. The bottom rod (B), which is free to turn in the same brackets, supports brackets that hold the top rod (C). By means of a linkage from the traverse frame counterweight to the bottom rod (B), the top rod (C) moves outward as the package increases in diameter and increases the yarn take-up speed.

Actually, this attachment is a supplementary tension to the disc tension. Friction on the yarn is created by passage over rod (C) and under rod (A), thus imparting additional tension to that obtained by the discs. The yarn passes over and behind top rod (C), in front of and under center rod (A), and then to the breakage levers. As upper rod (C) moves outward, the amount of contact between the yarn and the rod can be reduced from 216° to 23°. Changing the amount of wrap around rods (C) and (A) reduces tension on the yarn as the yarn speed increases, the position of rod (C) being controlled through the linkage by the position of the counterweight. In this manner, a differential tension control is provided, heavy tension at the small diameter of the tube, where the yarn speed is lowest; at the outside diameter of the package, where the yarn speed is highest, the tension applied by the rods is practically removed, about the only remaining tension on the yarn being obtained from the discs.

Because of the space required for the rods, the two-rod diff tension attachment cannot be used on more than five spindles per gang; that is, a special bed is used which spreads out the five spindles over the space usually occupied by a regular six-spindle gang with long bed.

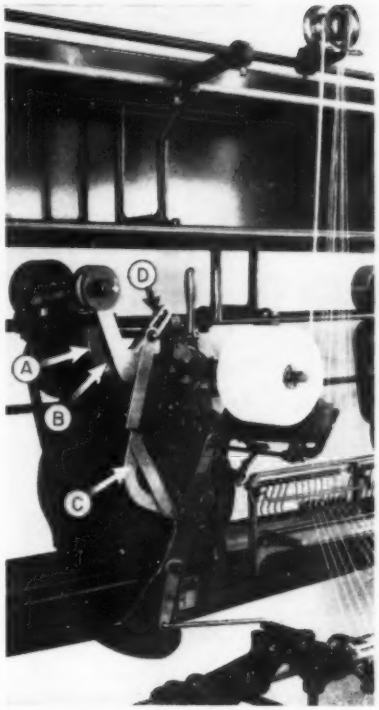

Fig. 85-A. The heavy diff pressure attachment, shown here, is used with cone creel supply to give high density at start of winding to prevent bulging at ends of package.

Heavy Diff Pressure Attachment for Two-Rod Diff Tension

However, as has been stressed previously in these articles, the winding of acceptable packages does not depend upon tension alone—there must be the proper combination of tension *and pressure*.

The two-rod differential tension attachment, while solving the tension problem, makes the standard differential pressure attachment ineffectual, because of the counter-pressure effect of rod (C). At the start of a package, when this rod is at its uppermost position and the yarn is taking the maximum wrap around it, the pull of the yarn on the rod is in such a direction that, through the linkage, it tends to force the traverse frame back away from the package, thus removing pressure.

To offset this condition, a heavy diff pressure attachment, as shown in Fig. 85-A is used (not to be confused with the heavy diff pressure attachment covered in Article 5).

The attachment shown in Fig. 85-A is used only with the two-rod diff tension attachment. A bracket (A) is mounted on the tie rods of the machine and includes a stud around which lever (B) pivots at its elbow.

Bracket (C) is attached, at its lower end, to the traverse frame by the screws which also hold the counterweight. At the upper end of bracket (C) is a stud which slides in the slot (D) of lever (B). At the start of winding, when maximum pressure is required, the left hand arm of lever (B) is horizontal. As the package increases in diameter, bracket (C), by means of the stud in its upper end, rotates lever (B) clockwise around its stud and raises the weight on its left hand end into an angular position, thus releasing pressure on the traverse frame. The leverage is so arranged that this pressure is quickly released, on the established principle of winding with high density next to the core in order to prevent bulging as the package increases in diameter.

As in the case of the two-rod diff tension attachment, this heavy diff pressure attachment cannot be used on more than five spindles per gang.

(Article 14, to appear in an early issue, will continue the discussion of No. 50 special winding attachments and will cover multiple-end, two-cop winding; the Arnold tube attachment; coning covered-rubber yarns from skeins; and the bobbin spool attachment.)

Research Plans Under Government Act

The advisory committee on cotton and cottonseed, authorized under the Research and Marketing Act, has recommended that much work authorized for the year 1948 be continued during 1949 with priority rating of A-1; a partial listing of this work includes development of new uses for cotton, study of deterioration of cellulose by infra-red technique, improved control of neps in manufacturing, resistance to soiling, and adaptation of cotton yarns for tricot knitting machines. New work having high priority for 1949 and as proposed by the committee is the development of new methods of cleaning cotton at the gin.

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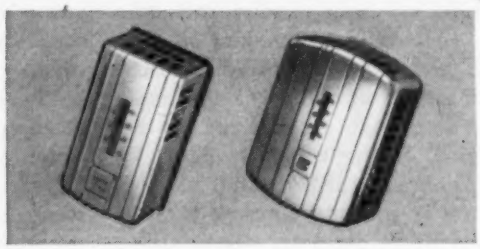

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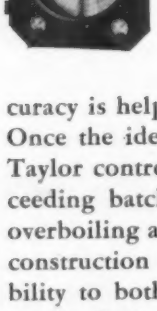

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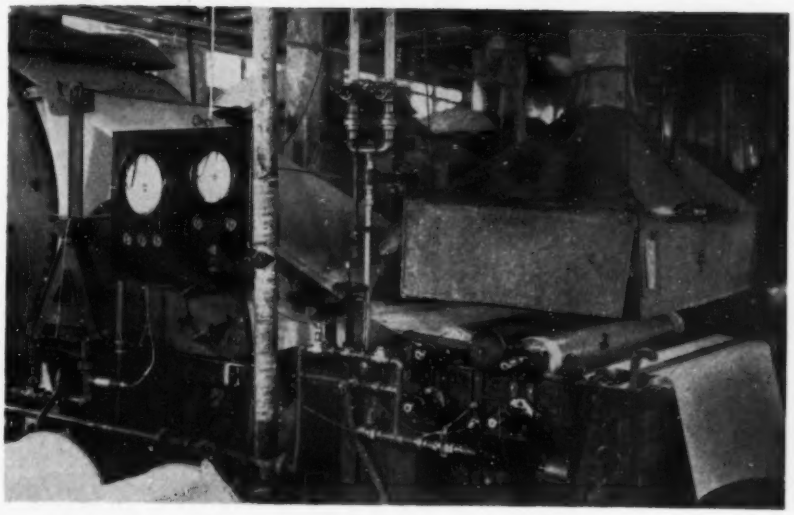

Cotton Warp Sizing

By PAUL V. SEYDEL, D. Sc.

Discussion of automatic controls: Size kettle, size box, cylinder temperature, moisture, stretch and tension, and roll pressure.

Article 19

WE ARE getting further and further into the scientific age. Its advent has brought forth more automatic controls for industry, and the slasher room is getting its share.

Automatic control in the slasher room does not necessarily save labor in the production of uniformly sized yarns. More than anything else, it makes possible the desired uniformity which without instruments was striven for as a sort of art on the part of the slasher men. Like the perfect art, it was usually just a dream and was rarely seen.

Today, however, we can control the cooking of the size, the temperature and level in the size box, the moisture content, stretch, steam, and speed. With good cotton and good sizing materials, there is no longer any excuse for a poor warp—the guesswork is gone.

More mills are finding that the right kind of control instruments on their size system is a good investment. Any good control that operates correctly is a valuable asset. There is, however, a serious danger: Some mill overseers feel after investing in these instruments that they can forget them. Like any piece of machinery, they at times get out of order. When the overseer has forgotten them and is relying on them to be infallible, considerable bad work may be done before it is caught. However, if the man in charge will use a reasonable amount of care and common sense to see that these instruments are functioning correctly, they are invaluable and will pay for themselves over a period of time.

All control instruments should be checked at regular intervals by standard thermometers and watches known to be correct, also by laboratory moisture and size tests, and elongation tests.

These instruments may be merely recording thermometers, which can be watched easily by the overseer, or they may be more elaborate regulating instruments as well, to keep temperatures constant, or a combination of recording and regulating.

Many different controls have been placed on the market by the various instrument manufacturers, several of which will be described.

Size Cooking Controls. For size cooking, instruments have been developed so that all the size maker has to do is to weigh in his materials, turn on a switch, and draw off the finished size into the storage kettle. They may even be equipped with a light that flashes, or a bell that rings when the mix is cooked, if he desires.

The controls manufactured by several companies utilize a cut cam with a cam follower which controls the steam valve. By means of this, the rate of bringing the size batch to a boil can be controlled, as well as the time and temperature at which it is cooked. The photo on page 143 shows part of an instrument board with one of the cut cams and a recording chart which acts as a check on the operation of the cam.

A graph may be pasted on the cam so that its operation range can be easily read. Several cams may

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be used as desired for cooking different types of starch, such as thin-boiling corn, or potato starch which requires different cooking periods than normal corn starch. Cams also can be made for holding the batch at lower temperatures for any given period before raising to a boil, such as in the use of enzyme thinners, and also for giving definite times of cold mixing before the heat is applied.

This type of control is particularly useful in small mills where there is not enough actual cooking to have a man on full time, so that some batches might be undercooked with resultant shedding, or overcooked, giving too low a viscosity.

The steam valves are actuated by air pressure, which is released or cut off as needed by the control instruments.

In cooking size, and in keeping it warm after cooking, no control system should be used that cuts the steam completely off, because this results in uneven viscosities. In extreme cases the condition may result in lumpy size. Where on-and-off type controls are utilized instead of throttling type, this can be taken care of by using a small by-pass valve which will allow a continual flow of steam to the size, but not quite enough for the desired purpose. The on-and-off controls can then supply additional amounts of steam as needed.

Size Box Controls. The size box level controls have been described in Article 15 (April 1948 issue). The size box temperature controls are thermostatically regulated air-controlled steam valves which open when the temperature falls too low, and close again as it rises to the proper level.

For such heat controls, particularly in the size boxes, the throttling type of control is to be preferred to the on-and-off type, as it gives more even heating. In the size box, it allows continual stirring of the size by letting in live steam, so that "dead corners" do not result where the size may cool too much and set to a gel.

In many cases an equivalent type of control may be obtained by use of a small by-pass line that is left open, and a thermostatically regulated on-and-off valve.

Instruments at left automatically control cooking of size in kettles at right. Note recording chart at extreme left which serves as a check on the operation of the adjoining cut cam control.

Throttling type controls are preferable with size box level control, to prevent size from cooling and clogging supply lines.

Cylinder Temperature Controls. Cylinder temperatures should be set and kept constant. Theoretically it may be possible to control the amount of drying by varying the heat in the cylinders, but actually the time lag in cooling or heating such large masses makes this method impractical. Therefore, drying is generally controlled through the slasher speed.

Cylinder temperature may be controlled either by controlling the temperature (the most common method) or by controlling the pressure of the steam, in view of the fact that temperature of saturated steam depends on the pressure.

Recording units are made for cylinder controls, but they serve no particular purpose other than to check the control instruments, because the temperatures should remain the same all through the operation. An occasional glance at an indicating thermometer or a pressure gauge will serve the same purpose.

There should be separate controls for each cylinder to control the temperature gradient between cylinders. Variations in condensate removal and steam requirements between the two cylinders make accurate group control of cylinders impractical.

With controls operated on a pressure basis, difficulties might be encountered when the cylinder collects too much air. Some controls check this by having an extra control on the condensate temperature. When this installation is used, if too much air accumulates, the condensate temperature will drop, and the control will then open a by-pass valve to release the air.

For efficient control, each slasher cylinder must be trapped separately.

Moisture Controls. For uniformity in slashing, the moisture controls are the most important controls (assuming, of course, that the slasher man is capable of normal control over the other factors such as cooking, size level, etc.)

The moisture regain in the yarn is the most difficult factor to control without instruments, and is highly important in the production of a good uniform size film. Too often there is a tendency in the absence of controls to dry the yarn too much, because of fear of mildewed warps. Thus the yarn loses strength through lack of sufficient

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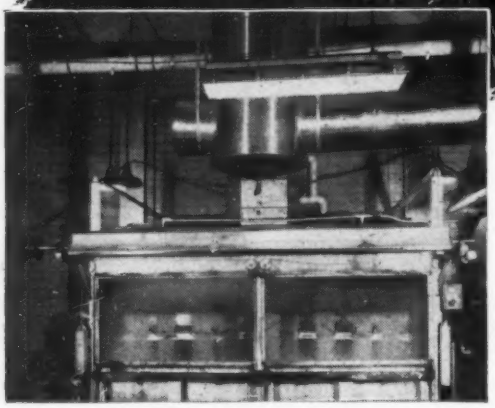

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moisture, and the size film becomes less elastic and more brittle, with consequent tendency to shed.

Moisture control methods are dependent on measurement of electrical resistance of the yarn, which varies with the percentage moisture. Dry yarn has a high resistance, and damp yarns have comparatively low resistance.

The resistance is measured across the yarn between two metallic rolls, one of which is usually one of the guiding rolls on the slasher or the measuring roll. The other is a small detector roll which is furnished with the controls.

The electrical resistance between these two contacts on the yarn is transmitted to the recording apparatus. Since the resistance depends on the percentage moisture, the recorder can be calibrated to read directly in percentage moisture, giving a permanent record of slasher drying operation. At the same time that the instrument measures the resistance, it measures any changes in resistance. The instrument transmits an electric impulse to the speed control motors to slow the slasher if the resistance has decreased, or speed it up if the resistance has increased, thus correcting for the variation.

The speed controls may be taken out of the circuit by throwing a switch, when the slasher man wishes to run a lease, doff, or control the slasher manually for any other reason. The slasher stop and slow motions may also be tied in to throw out the speed control automatically. The controls may be set to run any desired moisture content in the yarn.

Stretch and Tension Controls. Control of tension in the creel, and correction of excessive stretch as a result of excessive tension at different points in the slasher have been mentioned elsewhere in this series.

The amount of stretch should be as small as possible consistent with proper operation of the slasher, and the yarn should be prevented from rolling or kinking. It has generally been found impractical to reduce the amount of stretch below 1 to 1½ per cent. Where the stretch is over two per cent, the cause should be investigated and removed.

Stretch is controlled to a certain extent by the amount of cloth on the drag roll, also by the number of teeth in the gears used to drive the copper rolls in the size box.

The "falling roll" is a small iron roll that revolves freely in slots. It is supported by the warp sheet between two wooden rolls just before the yarns enter the size box. This roll exerts a certain amount of control on sudden variation in tensions. Its principal action is to take up slack so as to prevent kinking when the section beams overrun slightly as a result of changes in slasher speed.

Fairly accurate control of stretch may be obtained by utilizing a three-roll system similar to the drag roll and its two auxiliary rolls. This group of rolls is located behind the size box.

The amount of cloth covering this roll and that covering the forward drag roll can be varied in relation to each other so that a definite and fairly exact amount of stretch is obtained between the two. They must, however, be properly adjusted with relation to the speed of the copper rolls, so that tension between and on both sides of the copper rolls will be constant. Slippage on the copper rolls will take care of slight variations in adjustment, but the yarn will not slip enough to take care of a badly adjusted system.

The point where the most harm is done from too much tension is between the finishing roll and the cylinder. The yarn at this point is wet and easily stretched. It then comes in contact with the hot cylinder and is dried, and the size film is set before it has time to go back to its original length. This causes a permanent injury, reducing the elasticity of the yarn.

One of the latest developments in the control of slasher operation is the tension control. It controls only the tension with which the yarn is wound on the loom beam. Although motors are also furnished to drive the copper rolls and the drag roll (or delivery roll), the tension between these points may still be controlled by gears and by the amount of cloth on the drag roll. These surface speeds once being set, remain the same, and no attempt is made to control the tension between these points. In this instance the stretch is more important than the tension.

The control operates through a d-c motor which replaces the usual friction clutch. The current is furnished by a motor-generator set designed to adjust its output according to the load on the d-c motor. As the diameter of the beam increases, there is more pull on the yarn if the speed remains constant. The control "feels" this extra pull, and decreases the speed of the winding motor sufficiently to maintain the tension constant. The loom beam is therefore wound with the same tension throughout and all beams have the same tension. The operator does not have to rely on guesswork in operating the friction clutch.

The amount of tension desired may be adjusted by means of a rheostat, but once it is adjusted satisfactorily, no further attention is required. The action is said to be independent of variation in the voltage of the alternating current supply.

Roll Pressure Control. A different sort of control is a comparatively recent development designed to allow variation in squeeze roll weights, as well as make the squeeze rolls much easier to handle. The sketch on page 147 shows the appearance of the size box and rolls.

A constant pressure, adjustable to any desired amount, is exerted on the squeeze rolls by air motors. A gauge shows the amount of pressure being exerted. A simple turn of a switch lifts the squeeze rolls free of the copper rolls, allowing washing or changing of the blanket.

This equipment shows up to the greatest advantage in slasher rooms that have to run a wide variety of goods. Heavy sets require much more weight for dressing off the size than do light sets such as net or leno weaves, simply because there are so many more ends to share the weight of the rolls. It has the additional advantage of

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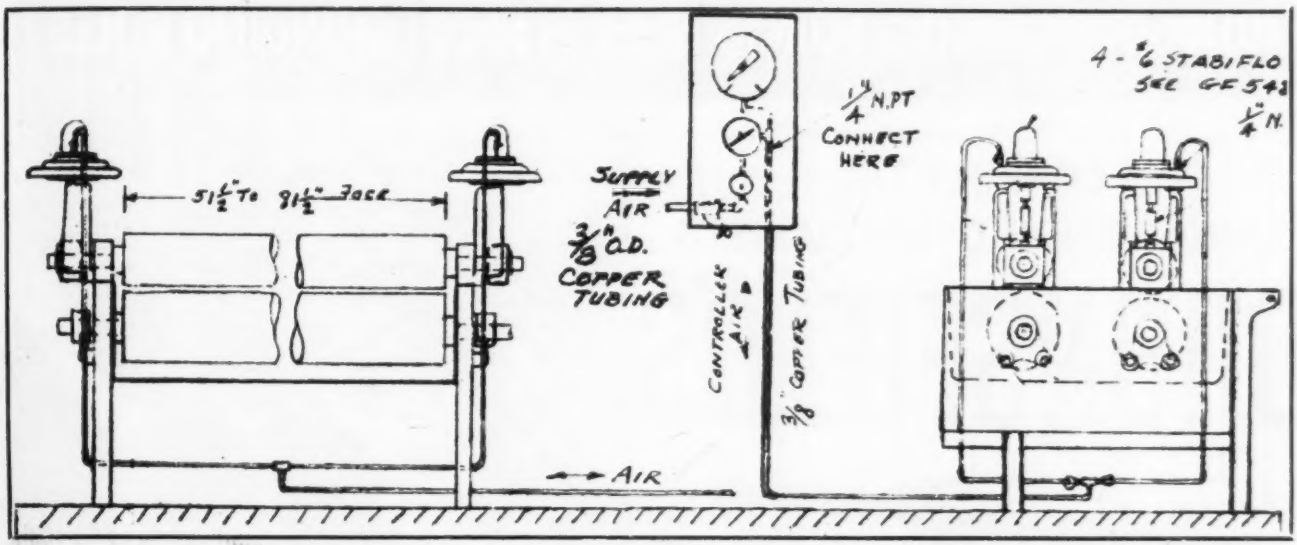

Photos and sketch courtesy, The Foxboro Co

Pneumatic loading of slasher squeeze rolls is a comparatively recent development. Shown at left is end elevation of loader installation on slasher size box. At right is side elevation. Load on squeeze rolls may be varied.

requiring only one man to lift the squeeze rolls.

Records. Records are a form of control. In case of troubles in the weave room, an accurate set of slasher records comes in very handy. It is important to the superintendent to be able to locate the source of the trouble. And even if the records are only occasionally referred to, the keeping of the records is a great incentive to the personnel to work carefully to produce more uniform results.

A set of records should be kept regularly by the slasher room overseer or foreman. Size formulas and the constructions on which they are used, temperature in size boxes, temperature and time of cooking in cooking kettles, temperature in storage kettle, and speed of slashers are important factors. Also, records of the life of slasher cloth, friction, cylinder packing, etc., should not be overlooked. A record of the sized and unsized waste, and a record of laps should be kept.

Where it is necessary to have a careful check on weight, a record of the weight of the section and loom beams should be kept. These tests should be checked against an occasional de-sizing test.

By the use of a carefully kept set of records, the foreman should be able to control his operations in an intelligent manner.

In conclusion, the operation of the slasher room is a case of using good judgment and common sense. If the foreman can instill in his men the necessity for accuracy and care, uniform results will naturally follow.

(To be continued)

Six-Point Industrial Preparedness Program Proposed by Fisher at NACM Meeting

"Preparedness plans call for a staggering amount of combed fabrics," revealed Russell T. Fisher, president of the National Association of Cotton Manufacturers, at the 94th annual meeting of the organization at York Harbor, Maine, September 16-17.

Mr. Fisher urged a six-point industrial war-readiness program to gear the textile industry to the international situation. Draft exemption of skilled textile employees, stockpiling of at least a two years' supply of long staple cotton, and accumulation of a reserve of combed fabrics are part of Mr. Fisher's plan.

He also suggested the removal of tariff-making policy from the hands of the State Department, placing of sample "familiarization" orders with potential war production plants, and limited curtailment (if at all) of textile machinery production in order to assure an ample supply of necessary new machinery and replacement parts.

The gravity of the international scene was reflected in many of the panel discussions. General W. H. Middleswart, chief of the military planning division of the Office of the Quartermaster General, stressed the distinction between industrial preparedness and industrial potential. "Today we undoubtedly possess the industrial potential to win a three or a five year war," said the General. "I am not so sure that we possess the industrial preparedness to be victorious in a six-month war or a one year war."

Speaking authoritatively on international trade, William C. Planz, vice-president of the Textile Export Association of the U. S., stated that "the prosperity of our textile industry depends on our being able to export a minimum of one billion yards a year."

Mr. Planz urged the group to encourage their exporting connections to bring new ideas, new cloths for export.

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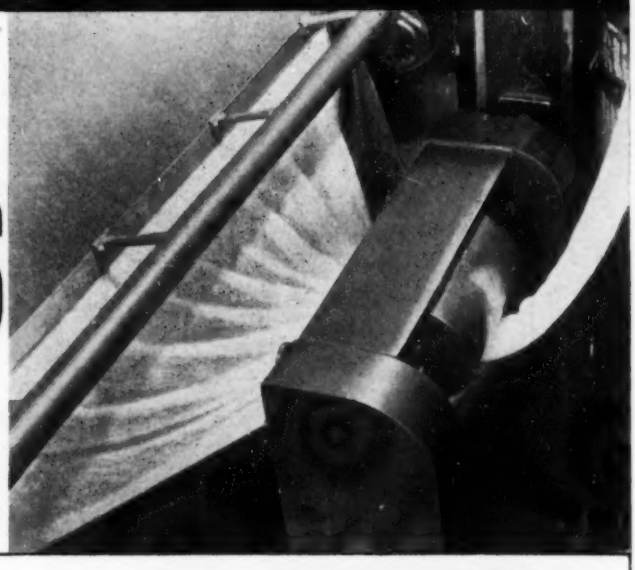

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Jim

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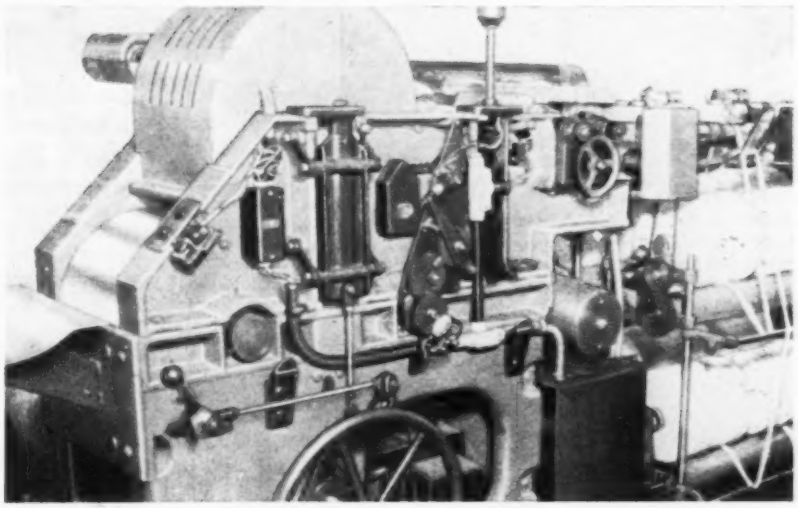
THE FIRST complete unit for the manufacture of worsted yarn on the Saco-Lowell system is now in operation at the Wright Spinning Company in Westbrook, Maine.

The mill is located in a single room with modern lighting, ample humidification and heating, and other auxiliary services. There are 2856 spinning spindles and 1408 twister spindles with the necessary preparatory equipment.

The Raw Material. The process, as presently established, uses as its raw material a combed worsted top weighing about 250 grains per yard. This top is made of 64's wool with a staple whose average length is about 3½" to 4¼".

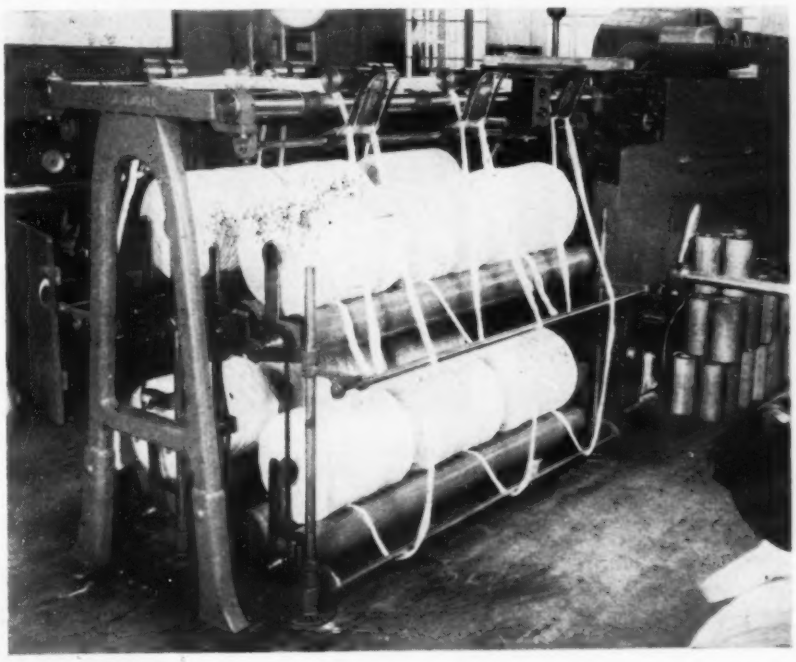
The top is received at the mill in bales weighing approximately 300 pounds, each individual top containing approximately 10 pounds of stock. The tops at Wright Spinning are first conditioned and then processed through a lap winder, a breaker and finisher drawing, a single roving frame, and a spinning frame, with the process being completed by the necessary winding and twisting.

The Equipment. A modified 9" cotton lap winder with a special creel for the top is used. The creel takes 12 packages, 6 on each side, and consists of two rolls which form a nest for the top. These rolls are positively driven by a train of fine pitch gearing and a



Above, side view of lap winder, the first machine on which the worsted tops are processed at Wright Spinning.

Below, view of lap winder creel. Five or six ends are made into a lap for the first drawing, and 12 on the second passage for the second drawing. Stop motions are provided to prevent the formation of laps which do not contain the requisite number of ends.



*Based on information appearing in July '48 Saco-Lowell *Bulletin*.

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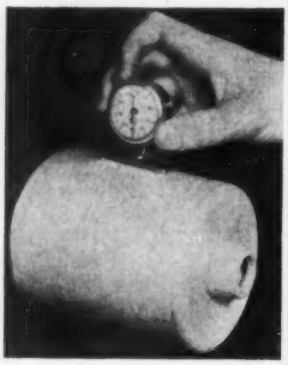

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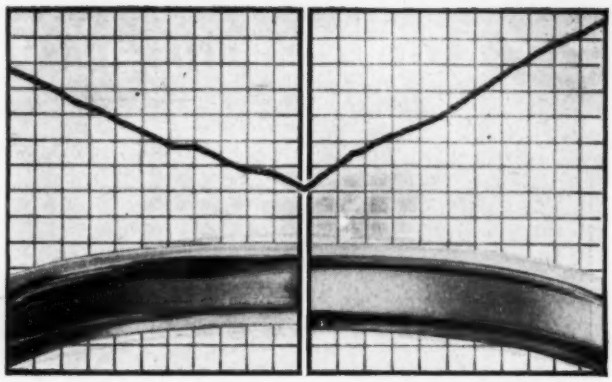

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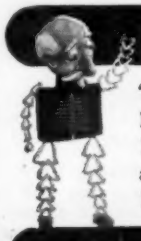

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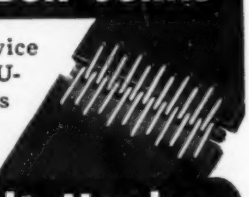

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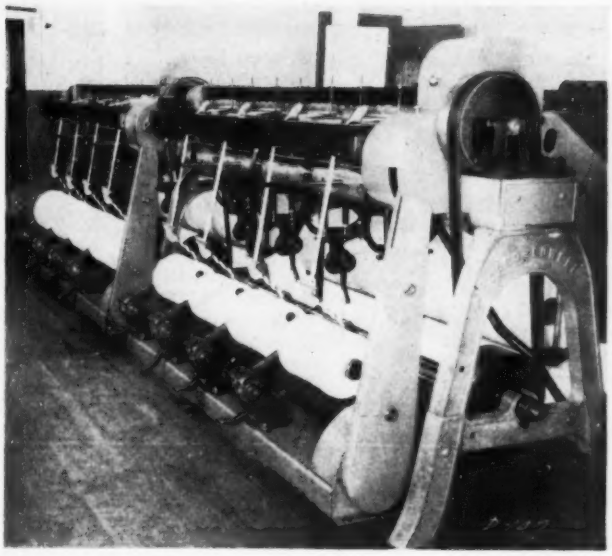

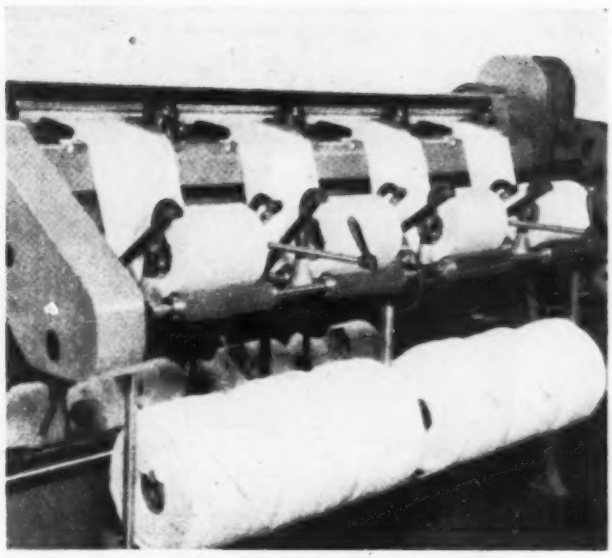

Drawing frames are equipped with a balling attachment as shown here. Mechanism consists of a carrier roll positively driven at a constant surface speed which is exactly equal to the rate of delivery at the calender roll. The web of fibers emerging from the front roll is formed into sliver by its passage through the trumpet and calender rolls, after which it passes to the presser arm through a guide. Sliver is wrapped around presser arm to create tension and consequently a pressure, which condenses the bulk of the sliver and makes it possible to form a firm ball. Doffing is accomplished by raising the arm which holds the ball down on the driving drum, tension discs being incorporated into the device so that the arm with its ball will stay in position after it is raised. The ball is then easily removed with the tube on which it is wound by sliding it from the spindle which is attached to the arm. Photo at right shows drawing frame creel which is of standard design.

chain and sprockets. Change gears are provided so that the speed of unrolling can be easily synchronized with the rate of delivery. Stop motions are provided to stop the machine as the stock runs out or breaks.

The lap winder also has a set of large-diameter drafting rolls placed directly behind the large top calender roll. The bottom drafting roll is machined to incorporate a special type of fluting. The top rolls are covered with synthetic. The draft range is 1 to 2, the purpose being to straighten the fibers, break any interlocking, and thus prepare the stock for the breaker drawing.

Drawing. There are two processes of drawing used at Wright. This drawing is designed especially for wool processing. The chassis is that used for the standard cotton five-roll controlled draft drawing. The conventional coiler has been replaced by a new baller. At the back of the drawing frame is the standard lap back creel.

The drafting element is a Shaw 3 Over 4 unit which is built as follows: The front and bottom back rolls are 1.375″ in diameter, made with a new design of fluted roll. This new fluting has exceptional fiber-gripping efficiency and is able to handle heavy grists of stock without the sliver developing serious linear irregularities. The tooth outline is such that fiber crushing is quite unlikely. The third line of bottom steel rolls is similar, but has finer fluting. The second bottom roll is 1.00″ in diameter and has a smooth sand-blasted surface. All rolls are mounted on a special roll stand which makes possible a wide range of settings to accommodate varying staple lengths.

The frames at Wright use a new type of synthetic cover on all top rolls. The large middle top roll is 2.125″ in diameter. The front and back top rolls are 1.125″ in diameter. The middle roll is spaced by means of a button, thus maintaining a constant gap between it and the bottom sand-blasted roll for fiber control.

On drawing frames equipped with the baller head the sliver, after leaving the front roll, passes through the trumpet into the nip of the calender and then straight to the entering guide of the presser, which traverses with a straight-line motion with no dwell at the ends of the traverse. The ball is built up on a tube. It is surface driven by a revolving roll which is positively driven at the same speed as the delivery of the calender roll. This surface drive maintains a constant winding rate without any complicated mechanisms.

The sliver, entering the guide, is then given two or three turns around the shank of the paddle, producing a snubbing action exactly like that developed by the presser arm on the roving frame. At the palm of the paddle, where the sliver is passed on to the surface of the ball, the distance from the eye of the paddle to the delivery tangent of the ball is always much less than the staple length, so that it is possible to build up a firm, tight, high-density, well proportioned ball without creating linear irregularities by stretching.

Each of the two processes of drawing uses the same type of equipment. The tops are first put through the lap winder, then the breaker drawing. The laps from the breaker drawing are then passed again through the lap winder and then through the finisher drawing. This gives some extra doublings and blending which

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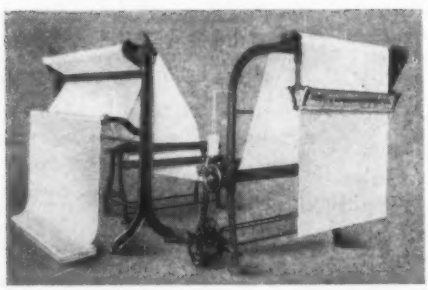

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Takes the goods in the open width and doubles the two selvages together with the face inside as they pass over the Doubling Frame. As the goods pass under the Tacking Machine head, the edges are stitched with a loose, elastic chain-stitch about ¾" long, leaving the goods in tubular form.

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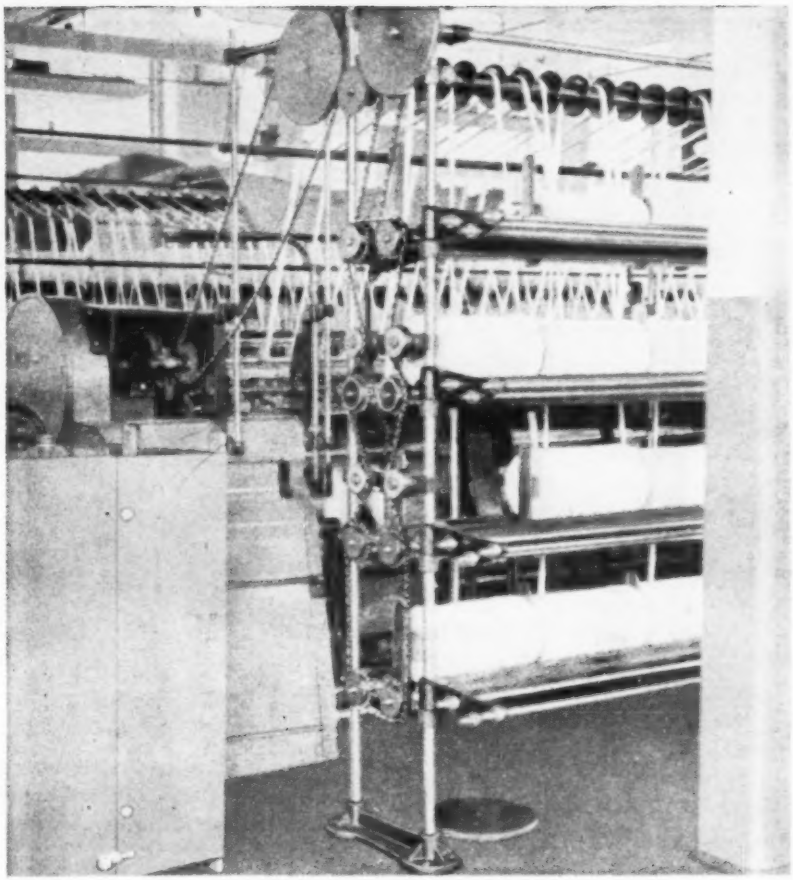
The creels on the roving frames at Wright Spinning are unique in that they use balls as the package for the the back stock. Basically, the creel consists of a series of steel standards supporting the four lines of carrier rolls and the racks for the extra balls. The end, leaving the ball as it unwinds at the exact surface speed of the back roll, passes over a standard lifting roll and then directly to the trumpet which guides it into the nip of the back roll. The carrier rolls are positively driven through a combination gear and chain drive. Change gears are used to obtain exact synchronization between the intake at the back roll and delivery by the top carrier rolls.



has been found to be very helpful.

The Roving Frame. The Wright roving consists of two Model FS-1 10″ x 5″ roving frames built on a standard chassis with the Shaw 3 Over 4 drafting element. The frames are equipped with the new ball creel which has become an integral part of this type of unit.

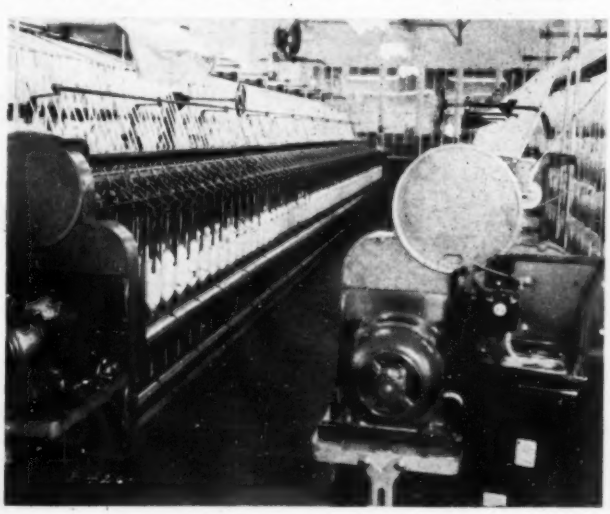
The drafting element follows the standard FS-1 basic design in every particular. The steel bottom rolls are all casehardened. The front roll is 1.125″, the second line, sandblasted finish, is .75″, the third and fourth 1.125″. The front, middle, and back top rolls are covered with the newly developed synthetic mentioned previously. The rolls are Nitritex finished to assure ease of cleaning, a low coefficient of friction, and a resistance to tarnish.

The creel consists of a series of steel uprights supporting bearings which carry the cradle rolls which support the top. These cradle rolls are positively driven through a drive consisting of fine-tooth gearing with a change gear of 200 teeth, which can be changed to control the surface speed of the roll within ½%. The sliver, as it unrolls, passes over a series of guide rolls to the guide on the traverse bar which is a part of the drafting assembly.

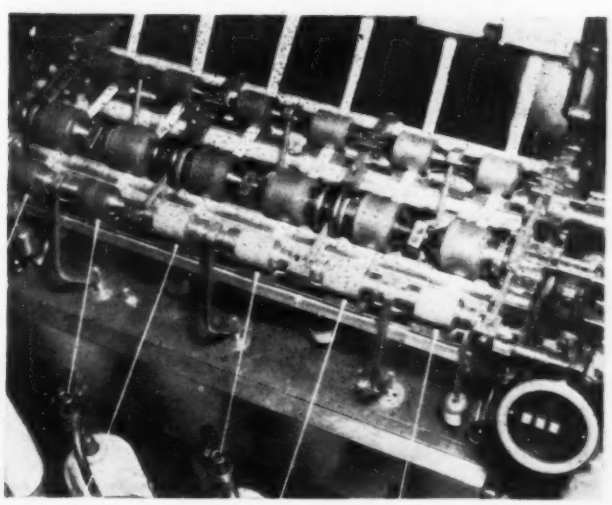
The speeds and other details will be discussed later.

The Spinning. The spinning room at Wright contains 14 Saco-Lowell standard spinning frames. The frames have been built with a 4″ gauge and contain 204 spin-

View of the two Model FS-1 10″ x 5″ roving frames .



The Shaw 3 Over 4 drafting element is utilized.



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Scene in spinning room at Wright Spinning Co. There are 14 spinning frames equipped with the Model SZW drafting unit. They are built with 4-inch gauge and 204 spindles.

dles. This gives a frame only 38′ 6.375″ long including the motor.

The equipment includes a new steel cylinder, 10″ diameter, mounted on ball bearings equipped for grease lubrication. The frames are motor driven through a texrope drive. The No. 4 McMullan spindle, with wood sleeve for paper tubes, and extra capacity oil base is driven by a ⅝″ tape which runs over anti-friction tension pulley on a constant tension assembly. The Herr lubricated rings, 2″ in diameter, are mounted on a new aluminum ring rail. The frames are also equipped with enamel thread boards of the traversing type and die-cast solid aluminum separators No. S2617. Modern creels for double roving take the 10″ x 5″ bobbin without any interference.

The most interesting unit on this frame is the Model SZW drafting unit. The rolls are mounted on a 5″ high roll stand and have sufficient spread to take fibers up to 4.25″ long. The roll settings from front to back roll can be varied through a wide range in order to give the best results for the particular fiber length being processed. The front roll is 1.375″, while the middle and back rolls, both of the knurled surface type, are 1″ in diameter. The front top roll is 1 5/16″, Nitritex finished, covered with the same synthetic used on drawing and roving. The back roll is like the front roll in every respect. There are three control rolls, one being an uncovered steel roll with a fine sand-blasted finish, one being covered with leather and one with red leather. A Rose plush underclearer is used for the front bottom roll. The top clearer assembly is revolving for the front and flat for the back rolls.

The yarn from the spinning is wound on cones suitable for twister creels since it is all made into two-ply for weaving into top-grade gabardines.

Eight Type BA-39″ worsted twisters built with a 5″ gauge and 8″ traverse are used for this purpose. There are 176 spindles per frame.

The machinery used, process flow, and other interesting manufacturing information are set forth in the accompanying box.

MANUFACTURING INFORMATION
Wright Spinning Co.

FIRST LAP WINDER
- Weight of top—250 grains per yard
- Doublings—6
- Draft—1.65
- Weight of lap—910 grains per yard
- Total weight of full lap—14 to 15 pounds
- Speed—34 yards per minute

FIRST DRAWING
- Weight of lap—910 grains per yard
- Draft—13.0
- Sliver—70 grains per yard
- Weight of full ball—14 to 15 pounds
- Front roll speed—246 r.p.m. (1.375″ dia.)

SECOND LAP WINDER
- Weight of sliver fed—70 grains per yard
- Doublings—12
- Draft—1.15
- Weight of lap—730 grains per yard
- Total weight of full lap—11 to 12 pounds
- Speed—34 yards per minute.

SECOND DRAWING
- Weight of lap—730 grains per yard
- Draft—14.6
- Sliver—50 grains per yard
- Weight of full ball—11 to 12 pounds
- Front roll speed—280 r.p.m. (1.375″ dia.)

ROVING
- Sliver—50 grains per yard
- Draft—19.2
- Hank roving—3.20 cotton count, 4.80 worsted count
- Spindle speed—1030 r.p.m.
- Front roll speed—147 r.p.m. (1.125″ dia.)
- Twist multiplier—Approx. .85 to 1.05 depending upon stock
- Weight of full bobbin—2 pounds

SPINNING
- Hank roving in creel—3.20 (cotton count)
- Doublings—2
- Draft—16.7
- Yarn—40 worsted count, 26.7 cotton count
- Spindle speed—5800 r.p.m.
- Front roll speed—93 r.p.m. (1.375″ dia.)
- Weight of full bobbin—2.5 ounces

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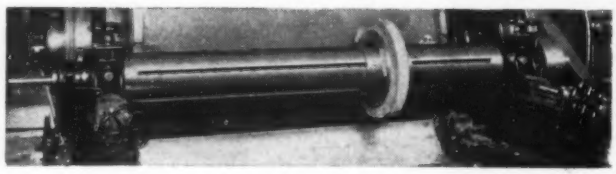
Heavy Duty
Bare Cylinder Grinder



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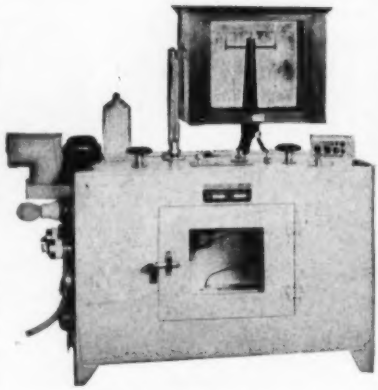

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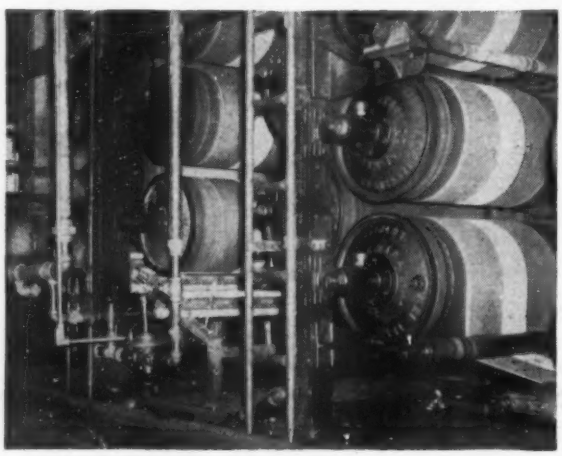

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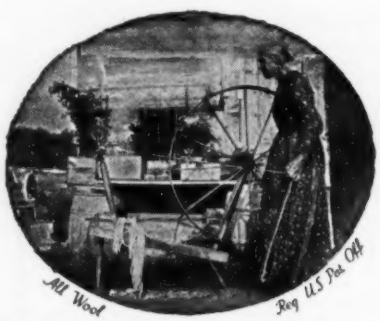

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Transfer Applying Machine Saves Time and Energy

Staff Prepared

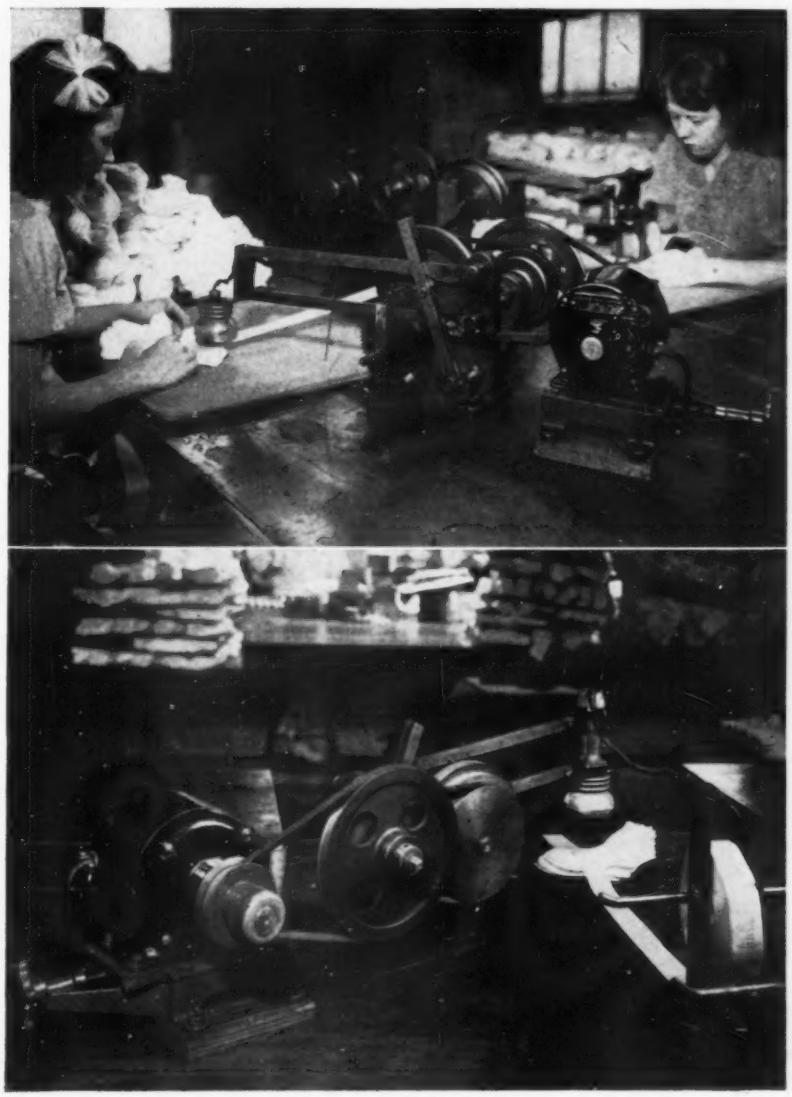
DETERMINATION to increase production at the stamping process and decrease operator fatigue has prompted the development of a transfer applying machine which automatically lowers and raises the stamping iron, with the result that it is only necessary for the operator to place the goods in position for application of the transfer and remove the goods after they have been stamped.

The idea was conceived by personnel of the Ashe Hosiery Mills of Knoxville, Tenn., and problems of machine design and construction were worked out in collaboration with engineers of McNaughton & Co., also of Knoxville, manufacturers and distributors of the machine.

The method by which the machine operates is clearly illustrated in the accompanying photographs. The stamping iron is clamped onto a frame pivoted at one end and actuated by a cam and spring arrangement. The stamp is pulled down by a spring and raised up by cam action. The device is driven by a small electric motor utilizing a variable-speed V-belt drive.

The stamping iron is held in the up position by an automatic control until the operative is ready for it to come down on the transfer and stocking. The machine can be adjusted to make one movement at a time until the operative attains proficiency in handling the work. It can then be set to run at a slow speed so that a dozen hose can be transferred without the machine coming to a stop. After the operative learns to operate the

Photos courtesy, Ashe Hosiery Mills



Two views of the transfer applying machine. In the upper photo, the stamping iron is down, having just made a transfer application. Note cams and spring. Lower photo is view of machine from the driving side. Note variable-speed pulley arrangement. Iron is in "up" position.

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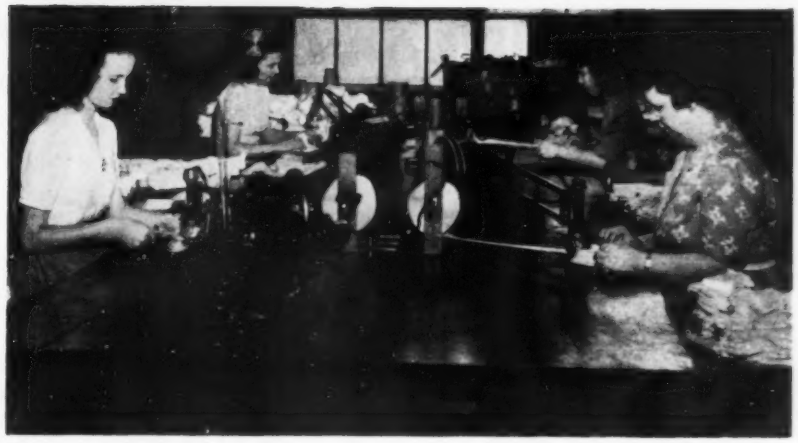
machine and produce transfers at this rate, speed of the machine can be gradually increased to a point where an operative can transfer fifteen hundred dozen pairs or more a day without exerting more physical effort than other employees.

The machine may be used on any type of stocking (regardless of the material used in the manufacture), handkerchiefs, or any other type of flat knit or woven goods.



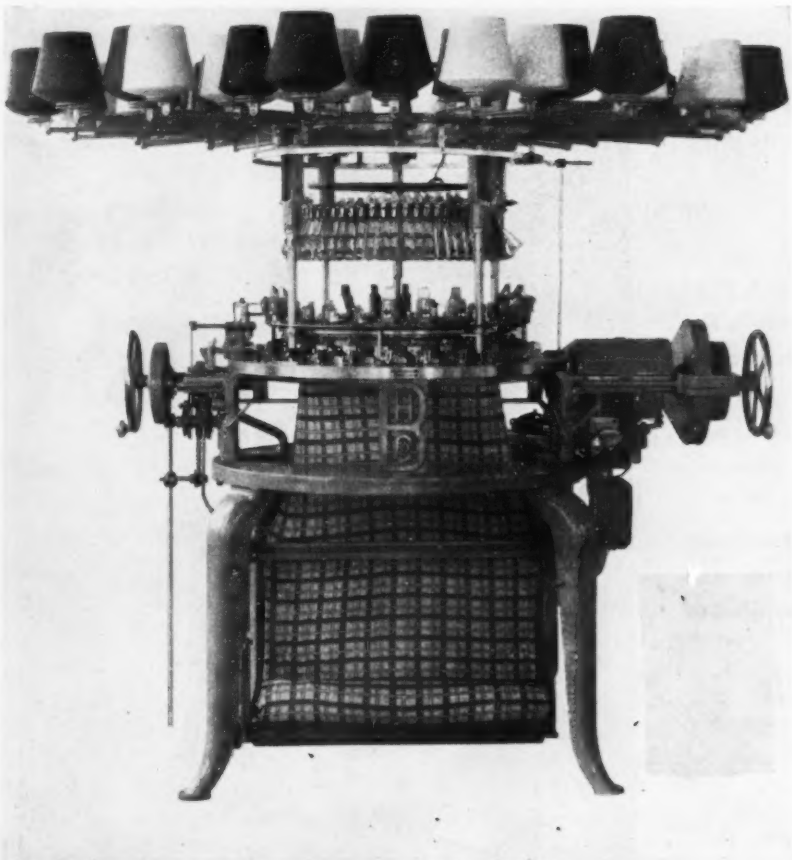
Operatives stamping anklets with the new transfer applying machine.

Three-Position-Wheel Machine by Brinton

H. Brinton Co., Kensington Ave. and M St., Philadelphia, Pa., has announced that a new design of three-position pattern wheel machine is now in production.

The machine, originally conceived in 1935 when patent was issued to cover the three-position wheel, has now been completely modernized for the production of plaid, jacquard, striped and patterned effects suitable for dress goods, suitings, slip covers, sweaters, bathing suits, etc.

24" 24-feed 18 cut sinker top three-position-wheel machine.



The three-position wheel permits the elimination of floats on the inside of the fabric, the floating yarn being laid in generally on alternate needles. This allows the making of figure patterns without float stitches. Cylinders are changeable for any yarn down to 50 single or to single 18 worsted.

The wheel is made of alloy steel; comprises two members containing from 72 to 160 jacks. Easily loosened screws permit quickly rearranging the design change jacks. There is one pattern wheel for each feed. Wheel diameters range from 2 5/8" to 3½". As many of these wheels as necessary can be used to achieve the desired pattern. Wheels may be instantly installed or removed from the machine.

One model of machine, using 24 feeds, combines floatless pattern wheel work and horizontal striping. Tuck bars are standard equipment on all feeds, permitting the automatic change from fancy wheel work to plain jersey; also changing the yarns at the same time when desired.

The second style of machine is equipped with 32 feeds for continuous pattern wheel work. This can also be equipped with four color striping boxes on as many as 16 feeds to make horizontal stripes, operated automatically, in conjunction with pattern wheels.

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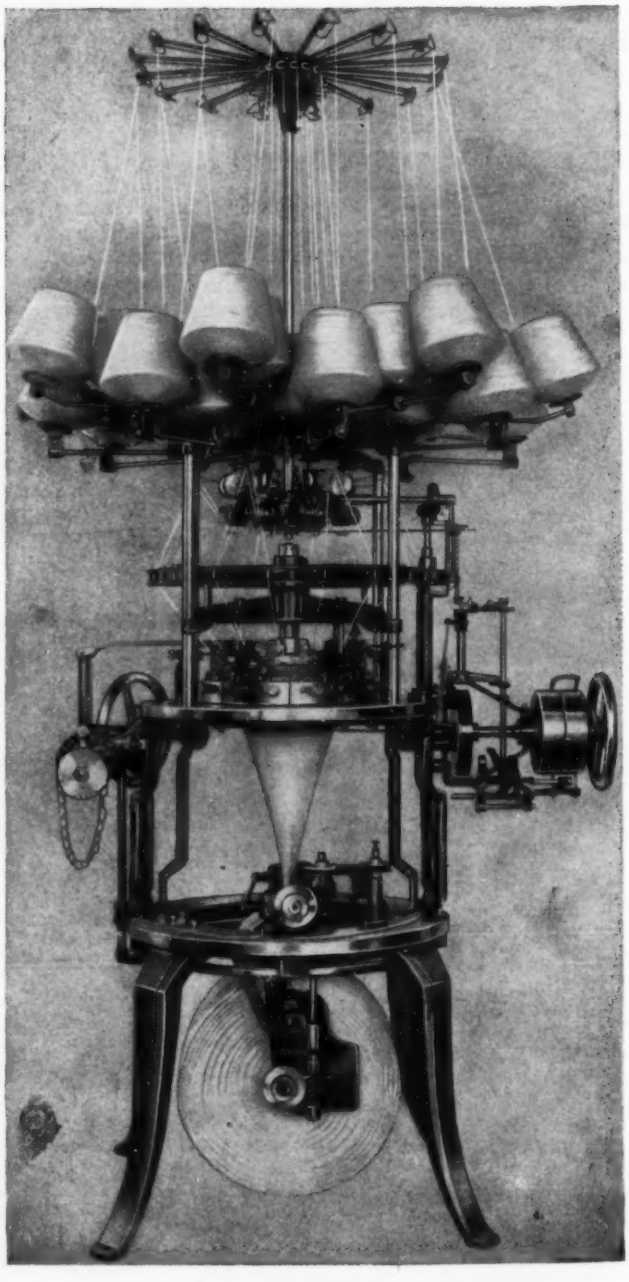

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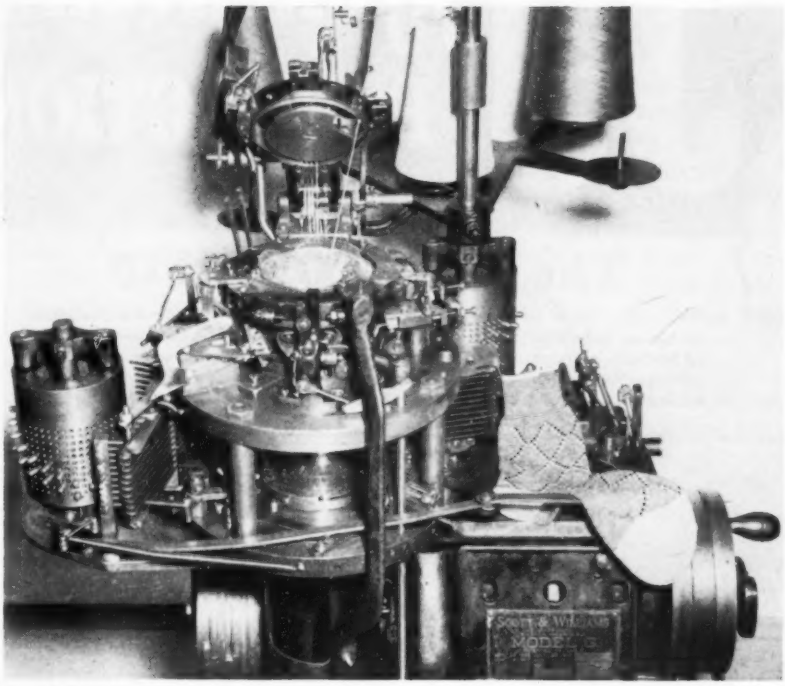


The Georgia Komet

EXCLUSIVE

By MILTON C. MAY

RUMORS and misleading statements regarding a converted knitting machine incorrectly called the "Georgia Komet" have been circulating within the knitting industry. This article is an assembly of facts that are intended to clarify some of the mistaken ideas about a machine which is most often called by a name that is definitely a misnomer.

DURING the latter part of 1941, Villa Rica Hosiery Mills of Villa Rica, Georgia, began installing a number of converted circular knitting machines. These machines were changed from 200 needles to 120 needles. They were of special design to produce fancy goods, and although the original conversion was built in 1937, Villa Rica was among the first to use the new version on a production basis.

Prior to the time they were placed in operation at Villa Rica, there was considerable discussion concerning the new type machines. The complete lack of advertising and printed facts about them added to confusion that resulted from conjecture and rumors within the knitting industry. Some of the misunderstanding that exists relative to the true features and construction of these circular knitters is due to the name that mislabeled the machine before the details were known.

It is not known exactly how the name "Georgia Komet" became attached to the converted machines. Nevertheless, the name has stuck with it since its inception, despite the fact that it is misleading. The facts and features of the converted models indicate that the name is definitely a misnomer. The name "Komet" does not represent the machine for what it is or what it does.

The so-called "Georgia Komet" is actually a flat knit stitch circular knitting machine that has been converted to manufacture flat stitch designs for fancy men's anklets. It does not make a full length men's hose, nor does it make a rib fabric such as that produced by a Komet machine; therefore, it is not a Komet type machine as the name implies.

The manufacturer of the conversion appropriately named it the "D" conversion. The "D" indicates that the machine has a double feed, double deck cylinder (cylinder doubled in length), and that it is double selective (selecting at each knitting point instead of selecting at one knitting point and knitting plain at the other).

The conversions have been marketed in limited numbers since 1937. They have given good results, and are in demand at the present time because they fill the specifications for which they were designed.

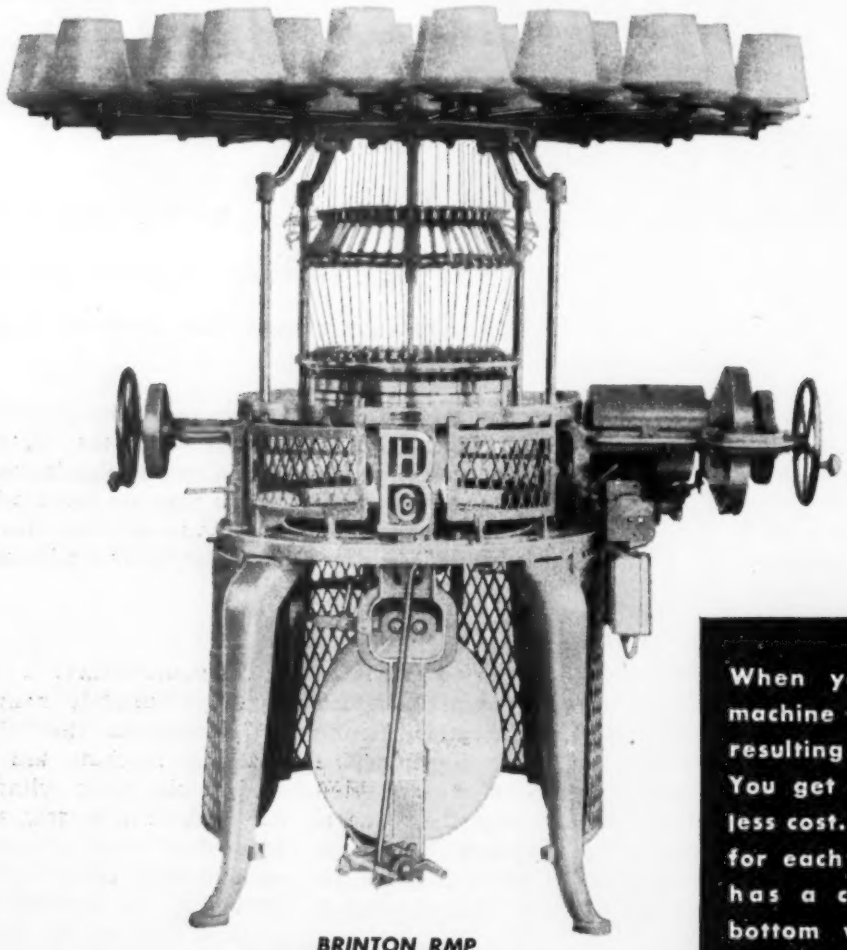
Old Ideas Combined. The ideas incorporated in the "D" conversion ("Georgia Komet") are not new.

IN SAME FLOOR SPACE WITH THE *New Improved High Speed*

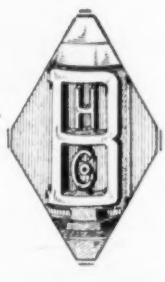
50% GREATER PRODUCTION

The BRINTON RMP

This is the high production machine which makes that fine balbriggan or jersey fabric for underwear—T shirts—polo shirts and a wide variety of knitted articles. Maximum number of feeds for maximum uniformity and quality of fabric. Manufactured in body sizes 10" to 26" in diameter. Also 28 to 64 feeds with cushion cams.



BRINTON RMP
24" – 64 Feed Machine
Production 75 to 80 yds. of quality fabric per hour



This Trademark on your machines represents more than half a century of experience.

When you install a BRINTON machine you get performance resulting from proved operation. You get more better fabric at less cost. Individual raising cams for each feed. Each stitch cam has a cushion cam at the bottom which permits the making of a "more even stitch" and better fabric.

H. BRINTON COMPANY

KENSINGTON AVE. & "M" ST. PHILADELPHIA 24, PA., U. S. A.

The development of the attachments for the change reportedly originated from efforts to make an inexpensive machine to manufacture fancy men's socks on a competitive basis.

The "D" conversion is the only machine (according to information available) that combines these attachments on one machine. There is no knitting machine manufacturer that makes a machine (as a standard stock model) that can duplicate the goods made on this "double-deck" conversion.

Everything that has been done in making these conversions, and everything that has been done with them has been done before. The only unique feature is that all of the mechanisms and principles have not been previously combined into one machine for making one type of men's socks.

Description. The machines are converted for multiple feed fabrics (two and three feed conversions have been made). It is a twelve-step machine, and there are twelve selectors for the needles. There are twenty-four selections for the pattern drum.

Conversions are made for all gauges from 10 to 54. The most popular is 36 gauge. Conversions are made on machines having cylinder diameters of 3 inches and larger. Some have been built with 4½-inch cylinders. Both Scott and Williams and Banner machines have been converted.

All of the "Georgia Komet" machines at Villa Rica Hosiery Mills have 3½ and 3¾-inch diameter cylinders, and they are equipped with two-feed attachments. The variety of designs that can be made on these converted machines is practically unlimited. The converted model does not perform the same functions, nor is it mechanically comparable with most standard makes of knitting machines. The versatility of the "D" conversion is confined to designs employing the float stitch.

The converted machines were made to knit flat fabrics only. No rib fabrics are made—only "trick stitch" patterns. Float stitches can be made with double yarn on each feed station, or single yarn on each station. A tuck stitch can be made on all feed stations, or tuck stitches on one, and float on others. Mock wraps can be made with float or tuck stitches. Tuck or float stitches can be made with needle drop, or criss-cross verticals.

Advantages. The conversions were designed to produce a fancy sock at increased production. They are intended to lower overhead and operating costs in producing fancy half-hose by using ingrain yarns (knitting with dyed yarns instead of dyeing the completed socks). Some of these machines have been operated on two types of yarn to be cross-dyed later for obtaining the pattern effect. It also makes patterns by plating.

Some of the reported advantages are enumerated as follows:

(1) The cost of the converted machine reportedly ranges from approximately one third to two thirds that of standard machines that will produce a comparable type of hose.

(2) It fills the need for a fancy goods producer to supply the market with fancy hose.

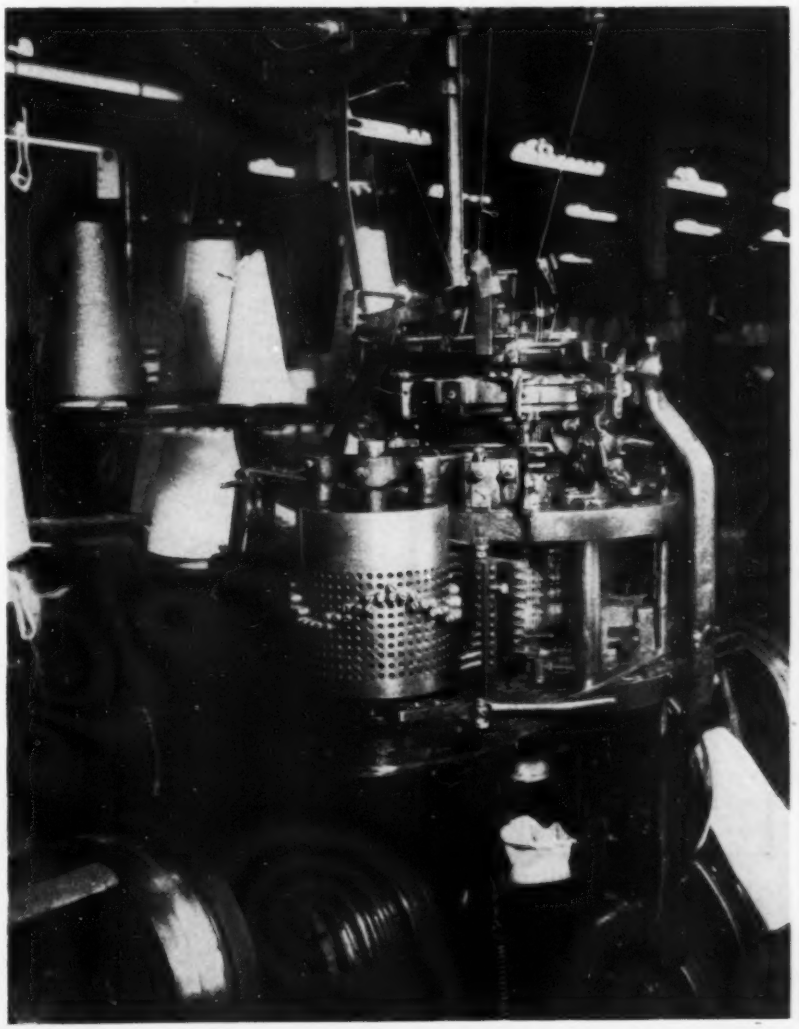
(3) Less operating expense is claimed because the converted model is not as complicated as standard machines.

(4) It is easy to convert old model machines to "Georgia Komets," according to reports.

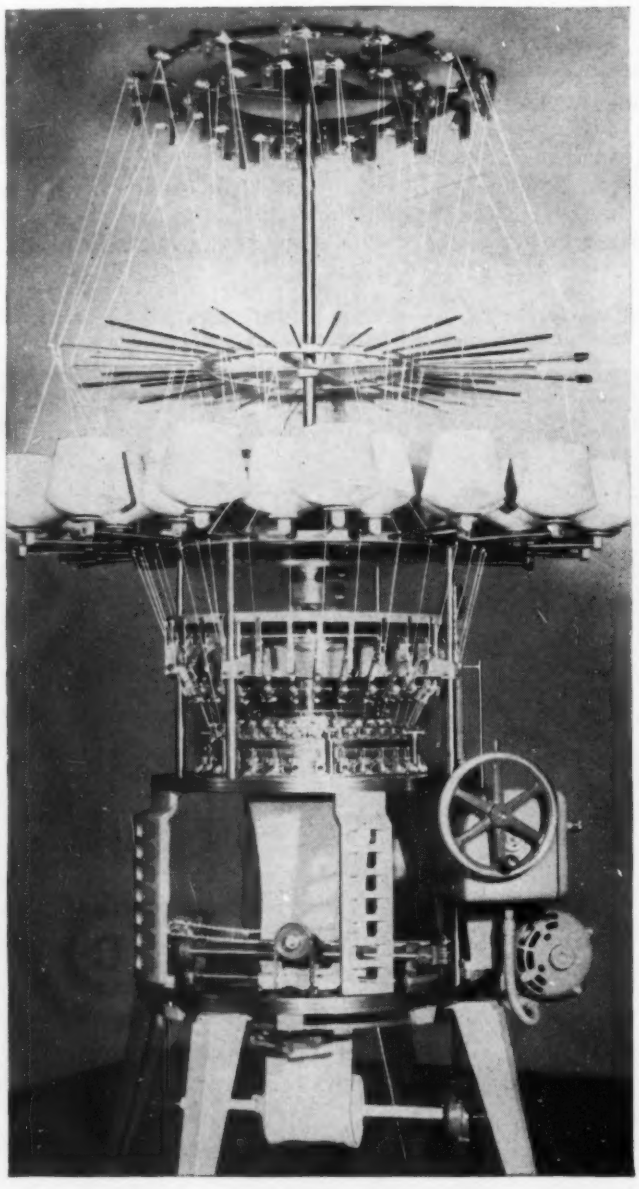
(5) Comparative simplicity of converted models is said to make training of operatives much easier.

(6) Lower overall costs of production on these machines makes it possible to sell the product at a

One of the early "D" conversions at Villa Rica Hosiery Mills. This machine has been in continuous operation since 1941.

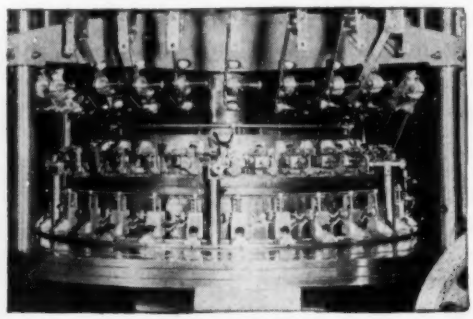


LET THIS NEW EDMOS KNITTER PROVE HOW 1½ FEEDS PER DIAMETER INCH GIVE YOU HIGHER PRODUCTION and PROFITS



ILLUSTRATED: 20" 30 FEED MODEL

The new Edmos Type EEM Super Multi-Feed Plain Rib Body machine, now available for early delivery, is daily proving that it produces up to four times more work than older type machines. Yet it occupies no extra space. Designed for the manufacture of Swiss Rib fabrics, it also serves you in the production of fabrics for "T" shirts, polo shirts, etc. See this sensational machine demonstrate its versatility at the Edmos Plant.



EDMOS TYPE EEM COMES AS FOLLOWS:

12"—18 feeds	18"—27 feeds
13"—19 feeds	19"—28 feeds
14"—21 feeds	20"—30 feeds
15"—22 feeds	21"—31 feeds
16"—24 feeds	22"—33 feeds
17"—25 feeds	23"—34 feeds

24"—36 feeds

TYPE EEM FEATURES:

Simplified camming system both on cylinder and dial
Gear driven dial
Oversized dial shaft
Adjustable motor mount
Simplicity—Accessibility
Interchangeability

EDMOS PRODUCTS CORP., 13 Christopher Ave., Brooklyn 12, N. Y.

"Once the biggest Sugar Beet Plant in the county"

Look at the old place. You'd never guess it was the biggest sugar beet plant in the county at one time. Employed close to a hundred people, too!

Jed Harris owned the plant at that time. I was his bookkeeper in those days. He always said the sugar beet business was here to stay. All you had to do was keep putting all your money into sugar beets. Buy all you could get your hands on, he said.

We kept telling him about money for machinery. Jed said the equipment would last a lifetime, and that we were a bunch of old ladies for worrying.

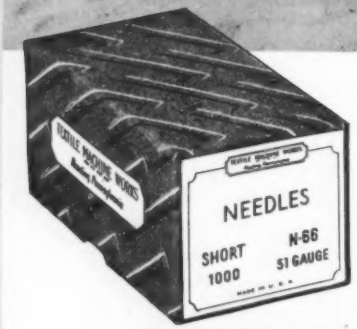
One day the big crusher flew apart. Then the sugar beet market dropped overnight. Jed went to every bank in the county, but all he got was sympathy. Without money for new equipment, the place never started up after that.

Jed comes here once a year to look at the building. Said if he had another chance he'd worry more about equipment than sugar beets.

Take a look at your last Financial Statement. Do you really have the money that you charged off for Depreciation in the past years? Is it part of your "current" assets . . . or is it earmarked as a separate fund under "fixed" assets?

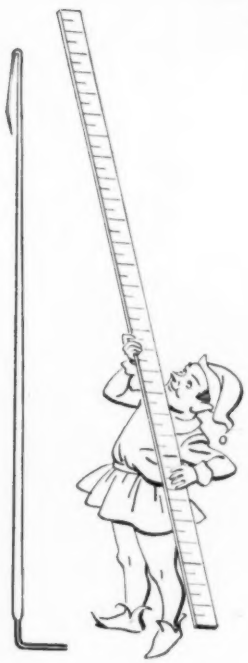
Write today on your business stationery for your copy of "Good Housekeeping in Business" —a pamphlet which presents what we believe to be a *logical* basis for handling depreciation money. We will be glad to send it to you.

TEXTILE MACHINE WORKS
READING, PENNA.



Textile
SPRING-BEARD NEEDLES
For Full Fashioned and Warp Knitting

For uniform length



You're not having an optical illusion when you examine Textile Spring-Beard Needles for uniform length — they all *look* the same because they *are* identically the same true length. It takes painstaking, exacting work to produce this precision product. Each step in the various stages of production is minutely controlled to bring about this scientifically accurate length from butt to beard.

Uniform length is but one of the many advantages you receive because of Textile's rigid controls where only the finest needles qualify. Yes, through unerring controls, Textile Spring-Beard Needles measure out to improved knitting results.

TEXTILE MACHINE WORKS
Reading, Penna.

lower price thas was possible previously.

(7) Replacement parts are cheaper.

(8) No changes are necessary, other than camming on the main drum to place the machine back in production of plain fabrics.

Stop Motions. The "D" conversions in operation at Villa Rica have one stop motion that operates mechanically in case of needle breakage. Special stop motions can be supplied if they are specified when conversions are ordered. Any standard stop motion operates on the converted machines. All types of Scott and Williams machines have been converted with the exception of Model RI.

There are no special safety features installed on the comversions.

Maintenance. The machines at Villa Rica Hosiery Mills have been in operation since 1941, and they have not been completely overhauled during that time. They are ready to be overhauled now, according to the management (not because of mechanical defects, but to install the latest attachments to modernize).

Late model conversions are the same as the original, but improvements have been made in workmanship, rigidity, and durability. Parts have been made stronger where it has been found necessary to do so.

Maintenance per machine is said to be slightly higher than on standard machines. On an overall production basis, prorated maintenance costs are approximately the same and possibly lower than for standard machines.

The service life of these converted machines as reported at Villa Rica is shorter than that of standard machines. This is attributed to the fact that the parts are not precision built, thus resulting in greater wear and more breakage, according to a representative of the mill.

Disadvantages. The "D" conversion is strictly a float stitch (or "trick stitch") unit that has been designed to produce certain types of patterns on which the fabric stretch is limited. This may be the only disadvantage that can be directly attributed to changes made in the conversion.

It is a "slack sock" producer that knits only the rubber type top of plain stitch design. If Model HH machines are converted, it is possible to make HH standard rib type tops. It is possible to make rib top socks if the rib tops are hand-transferred (called "top knitting").

Some of the disadvantages as set forth by the management at Villa Rica Hosiery Mills are as follows:

(1) The fact that the conversions were made in one machine shop, and some of the parts are not precision built, presents a problem when fitting new parts to the machine.

(2) The source of supply of new parts is limited to one maker.

(3) More maintenance is required on "D" conversions because they are not precision built.

(4) The converted machines are not completely standardized.

(5) The number of seconds is said to be greater on these machines because of the rough finish on the parts.

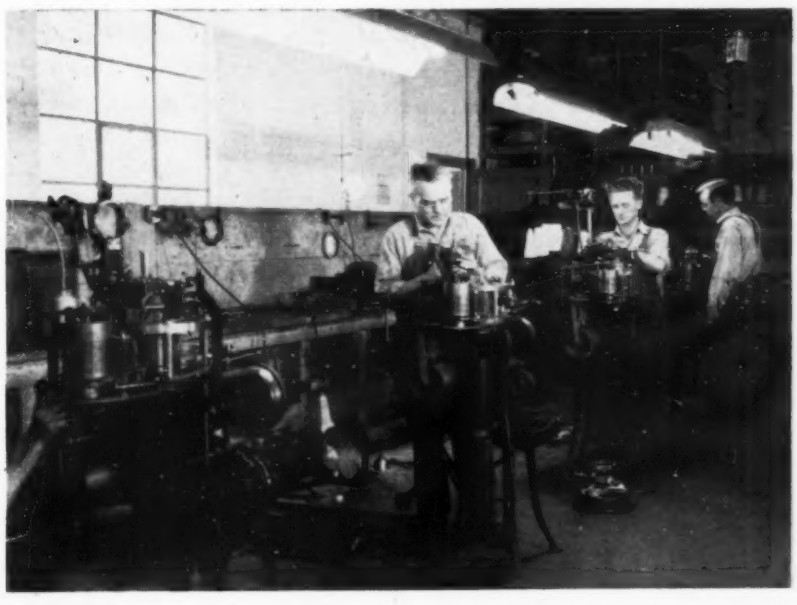
(6) Rib tops cannot be made (only plain stitch tops are made).

According to a representative of the builders of the "D" conversions, changes in production methods are intended to eliminate many of the disadvantages of the older conversions.

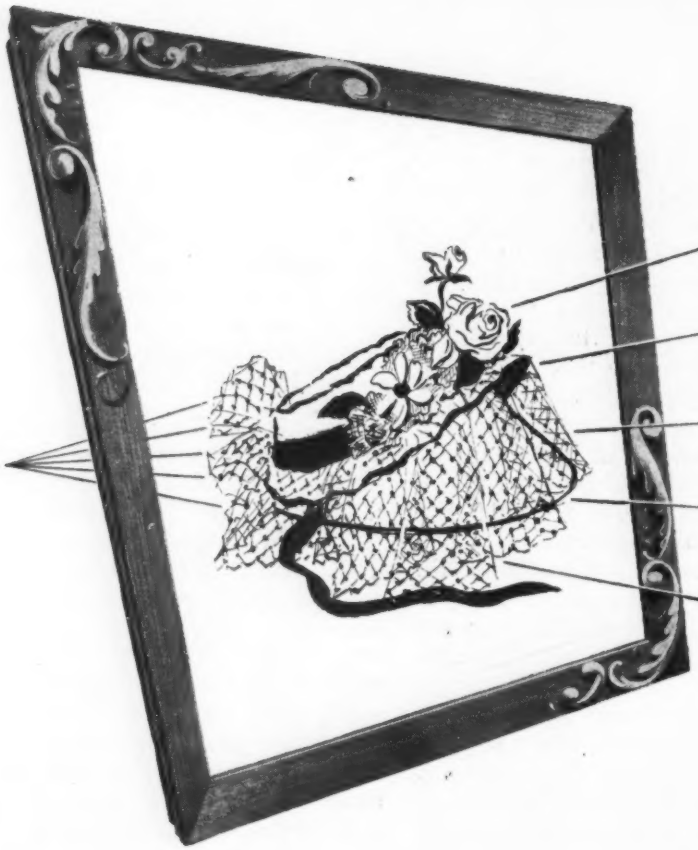
Availability. The manufacturers of the "D" conversions have sold them on a limited basis to mills already engaged in making the "trick stitch" type of goods. It is understood that the machines are not available to newcomers in the hosiery industry. At the present time, production is directed toward servicing and supplying plants already using this type of machine.

The fact that these units have not been advertised, and that they have been sold on a limited basis, may be the reason why there has been some confusion and variation of opinions as to just what the machine is and what it does. This also may be the reason why the combination of mechanisms and principles employed in the "D" conversion units is not known generally.

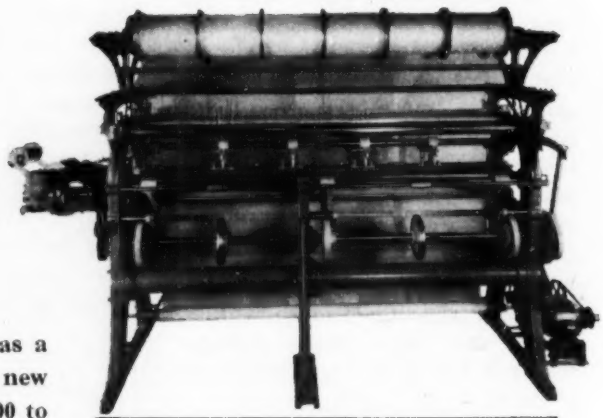
It is understood that the Keller Machine Company of Athens, Georgia, can make the conversions at a rate of approximately 100 per month.



A view of production line assembly of "D" conversions. This shop is the home of the so-called "Georgia Komet."



Are you making NETTINGS and VEILINGS?



Consider the High Production Rates Available with the Kidde Knitter

Anything from a 15 denier nylon bridal veiling—sheer as a cobweb—to a rugged laundry bag net can be produced at new high speeds on the *Kidde* Knitter. Speeds varying from 200 to 280 courses per minute—depending on pattern and yarn—are being maintained in mills using this machine.

That's a substantially higher rate of production than has ever been attained on this type of machine before—but it's *typical* of the high, *sustained* speeds possible with the *Kidde* Knitter. A new drum drive, a new motion on needle bars make these speeds possible—and the machine is designed throughout to withstand them.

You'll find the *Kidde* Knitter adaptable to practically any type of yarn, thread or elastic—quickly and easily set up for simple or intricate patterns.

Use the Kidde Knitter on these fabrics too

ELASTIC FABRICS for corsets, girdles, brassieres. DRESS FABRICS. DISH CLOTH MATERIALS. CURTAINS. NARROW FABRICS: edgings, braidings, laces. SHOE CLOTH. KNITTED OUTERWEAR FABRICS for sweaters, polo shirts.

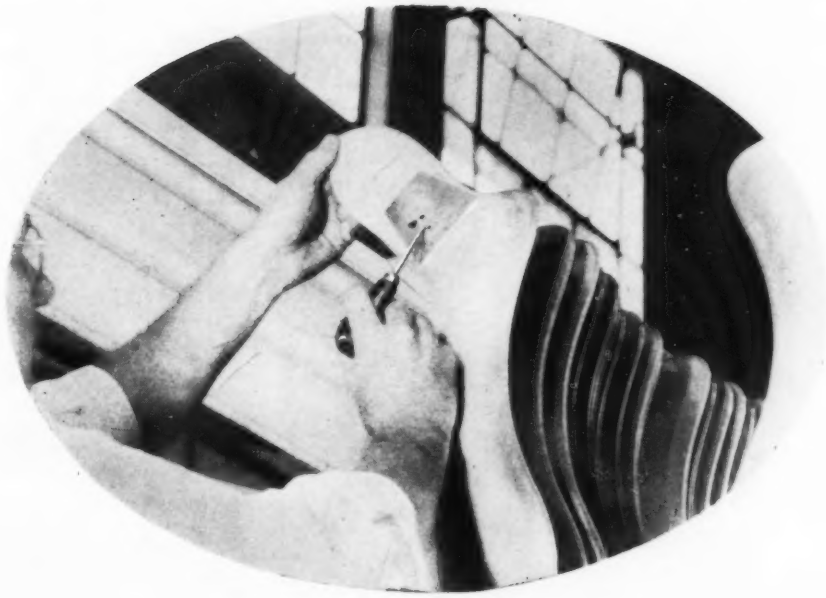
Write for free literature on the Kidde Knitter—or, better still, see for yourself what it can do. A machine is in operation at our Bloomfield plant—write for an appointment for a demonstration.

The word "Kidde" is the trade-mark of Walter Kidde & Company, Inc., and its affiliated companies.

KIDDE MANUFACTURING CO., INC. • BLOOMFIELD, NEW JERSEY

Knitter Hints
No. 25

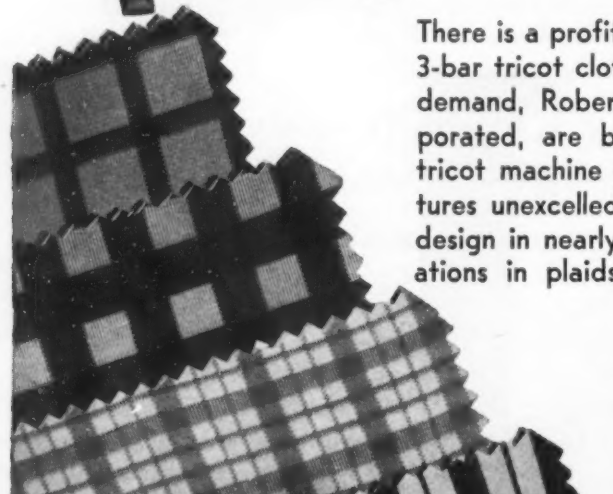
When you change your tips, DON'T do it like this ——————→



This Knitter Hint appears through the cooperation of Charles O. Simms.

Place your pick in the hole as shown here and there will be no danger of scratching the metal. THAT causes pull threads.

Here is the *Reiner* 3 BAR TRICOT MACHINE



There is a profitable market for 3-bar tricot cloth. To meet this demand, Robert Reiner, Incorporated, are building a 3-bar tricot machine which manufactures unexcelled cloth of novel design in nearly unlimited variations in plaids, stripes, checks, inlays, etc.

This 3-bar tricot machine runs at 320 courses per minute and can be stepped up to 360 courses when used as a 2-bar machine. Gauges are 14, 24, 26, 28, 32. Chain link or pattern wheel drive. The machine takes spools up to 21 inch flange diameter, or those of any conventional size.

This machine is already producing at various mills to the entire satisfaction of experienced knitters. Those interested in this profitable market are invited to write for details. Early deliveries are assured.

ROBERT REINER INC.

550-556 GREGORY AVENUE
WEEHAWKEN, NEW JERSEY

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10 MINUTES FROM TIMES SQUARE. Take Bus Nos. 61, 67, 167 from the Times Square Public Service Terminal at 260 West 42nd Street, New York City. Get off at Pleasant Avenue, Weehawken, New Jersey. From there turn left and walk through the underpass up to Gregory Avenue . . . . . TELEPHONE: UNION 7-0502, 0503, 0504, and 0505.

Nylon Promotions Help Rayon Tricot Sales

Promotion of nylon tricot, which is said to have hurt the woven rayon lingerie business to some extent, is credited with helping rather than hindering the sales of rayon tricot goods, according to spokesmen in the underwear field. The advertising of nylon tricot has served to introduce rayon tricot goods to that part of the consuming public whose apparel budget does not permit expenditures for nylon garments. The rayon knit goods business, therefore, has been growing along with the nylon promotion.

Nylon's name and the fact that the tricot construction needs no ironing have proved valuable selling points. Many of the large segment of consumers who cannot afford $5 to $10 for a nylon tricot slip are finding a satisfactory garment in the rayon knitted slips offered at $2 or $3. Nylon and rayon tricots, therefore, are not in direct competition with each other.

Contrary to a belief held by some of the retailers, it is claimed, knitted acetate rayon fabrics will not sag nor contract any more than nylons, if equal consideration is given to both types of fabric in the manufacturing and finishing processes. On the other hand, some distributors assert that a substantial amount of rayon tricot goods have been turned out without the proper care. This is a point on which the nylon tricot fabric makers are most careful, and this gives retailers the impression that nylon tricot goods show more dimensional stability than the rayon goods.

Observers in the trade are of the opinion that there is a profitable future for rayon tricots as well as nylons, and inevitably the rayon producers will meet all legitimate complaints by taking steps to correct their shortcomings. This is anticipated also from the standpoint that while 1949 probably will witness a continued high level of consumer spendable income, it also will witness a still more urgent search for worthwhile knitted garments and accessories at low or medium prices. That is, the retailers will be unlikely to want to shave their markups indefinitely, so as to sus-

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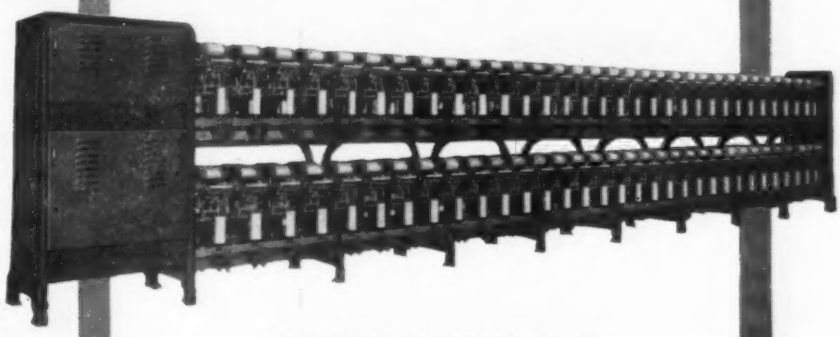
U.S. ACME

FACE DRIVE TWISTER

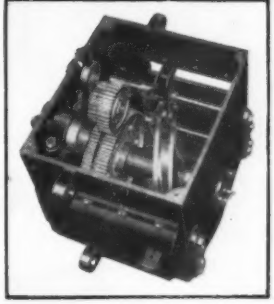
economical! high-speed!

THE HEADLESS PACKAGE TWISTER



ACCURATELY TWISTS YARN INTO TAPERED OR STRAIGHT-END HEADLESS PACKAGES FROM 8-OZ. TO 32-OZ. IN SIZE!

STEADY ACTION CAM UNIT



128 TO 200 INDIVIDUALLY CONTROLLED SPINDLES— (Marquette roller bearing spindles available with each machine)

NEW AND IMPROVED SPINDLE SWING UNIT with floating brake and fingertip release.

HIGH-SPEED, QUALITY YARN PRODUCTION AT ROCK-BOTTOM OPERATING COST AND MINIMUM MAINTENANCE EXPENSE!

SMOOTH, STEADY ACTION—Traverse is actuated by a unique cam unit, supplying motion directly and evenly to the traverse bars to eliminate loss motion! Built-in secondary motion prevents built-up ends of yarn on packages!

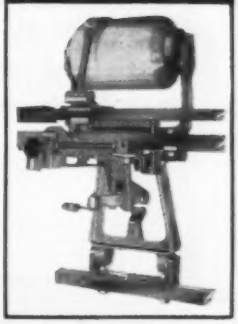
YARN ECONOMY & PROTECTION—

Mechanically positive stop motion individually stops each spindle in event of yarn breaks! Adjustments are unnecessary after installation!

PIVOTING TAKE-UP YOKE

is preloaded with a spring to assure even movement in the forward position!

STURDY, FOOLPROOF STOP MOTION



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BODY SIZE

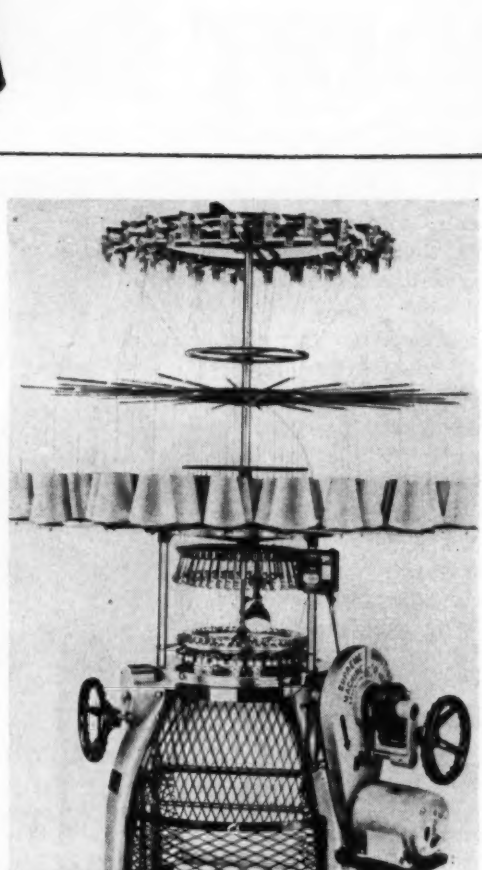
UNDERWEAR AND POLO SHIRTS

With

Supreme

Body Size

Model MJ



Supreme Body Size Model MJ eliminates slitting and sewing of side seams and matching of stripes on polo shirts and underwear. The planned Body Size comes right off the machine at the amazing rate of 100 yards an hour.

Let us help you select the proper Body Size Model MJ to knit the garment sizes in demand at your mill.

Dia.	Feeds
9"	28
10"	32
11"	34
12"	38
13"	40
14"	44
15"	48
16"	50
17"	54
18"	56

SUPREME

KNITTING MACHINE CO., Inc.

105 JOHNSON AVE., BROOKLYN 6, NEW YORK, N. Y.

tain turnover, and thus will be constrained to give rayon tricots an assured place in their inventories during the coming season.

Mixed Outlook Seen in Knitting Yarns

In the several branches of the knitwear industry, manufacturers now have different angles from which to view their yarn supply, as to prices and suitable deliveries. The promise of a large cotton crop already has helped to adjust knitting yarn prices to a level that is distinctly more to the buyers' liking. Raw cotton will surely be cheaper for the spinners and thus offset at least part of the yarn mills' higher cost of labor.

Another partial offset is the better performance among spinners' help—less absenteeism, more care in handling the equipment, a rise in production per man-hour, etc. A further offset to spinners' high costs is the fact that a great deal of new machinery has been installed in sale yarn mills (especially in the South) during the past year or two, which reduces the unit cost of production as soon as the operators learn how to run the machines effectively.

What has happened in cotton knitting yarn, industry spokesmen assert, also will affect all other types of manufacturing materials used for hosiery, underwear, outerwear and accessory knitted wearables. It is indicated that before long the knitters using woolen and worsted yarns will have a lot more influence over prices and deliveries.

In the synthetic yarn field, where there are relatively few producers, it is to be expected that over the longer periods the average manufacturer in the future will enjoy better stability of prices and more convenient delivery arrangements than have been furnished thus far since ending of the war. Although more or less under government control, silk prices and deliveries remain an enigma to the average knitter and, while undoubtedly this fiber eventually will win back a measure of preferment for some uses, the majority of manufacturers will have to be fully "sold" on the prospects.

Actually, excepting for brief periods when such yarns as

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PRODUCTS of unsurpassed quality and performance, plus an experienced knowledge that knows how to recommend their use for practical results—is convincing more mills, day by day, that NORTH is the place to turn for service and supply when changing conditions require new and highly specialized products to meet the problem at hand. Our men are trained in practice; not in theory. Our products pass the same exacting test.

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Among the nation's largest manufacturers of dressings for all warp yarns

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nylon may have to be allocated for certain purposes, it can be expected that 1949 will witness assurance among knitters of reliable supplies of all types of yarn, and spinners are deemed likely once more to exhibit a friendly spirit toward those who wish to improvise and experiment so as to provide consumers with novelties in the finished merchandise. Over the past several months, yarn sources have taken a long stride back to normal and their customers will reap benefits from this for a long time to come.

Retail Knitwear Sales Improving

From the standpoint of dollar-volume, retail distribution of knitted goods and related items shows a definite gain over the like period last year. Also, in some quarters the retailers report having sold more units of merchandise during August than they did a year ago, which is the first time this year that the stores have claimed greater clearance of units than they had twelve months earlier.

It is conceded that better unit distribution to the public is partly due to price reductions; proper timing of special retail promotions; plenty of cooperation from manufacturers who a year ago were unable to furnish promotional goods in enough volume; and a beginning of adjustment by the retailers in their methods of buying so as to prepare in advance to have adequate supplies of merchandise ready for sale, of a quality and at prices to suit the majority of consumers.

Spokesmen for the larger retail outlets and their sources express the hope that the weekly and monthly showing of unit sales will continue to improve through the fall, at least. Since mid-year, it is explained, there has been considerable curtailment of production in a good many lines, reflecting price resistance among the public earlier this year.

Observers say that regardless of the level of prosperity among manufacturers in general, if the condition is unduly prolonged where manufacturers in certain fields are unable profitably to dispose of their full output, eventually many thousands of wage earners will experience a drop in their income and this will soon react against the retail and wholesale outlets. That is, wage rates will remain at previous high levels, but working hours will be fewer in some lines.

The outcome of these observations is that the price-versus-quality equation over the next several months will have increasing importance for knitwear manufacturers and most of the producers in other industries, as a necessary prelude to a different alignment in 1949 and later, which it is hoped will furnish a fair basis on which a high rate of activity can be prolonged indefinitely.

Collections Becoming A Major Problem

The weekly statistics of business failures have changed somewhat when compared with a year ago, but on the surface they do not indicate what is said by credit experts in this industry to be the real problem now faced by those who are responsible for granting accommodations and making the collections. In fact, the larger accounts mostly remain in good shape. Either they have funds that are sufficient for discounting their bills, or they enjoy banking connections that can be called on for

---

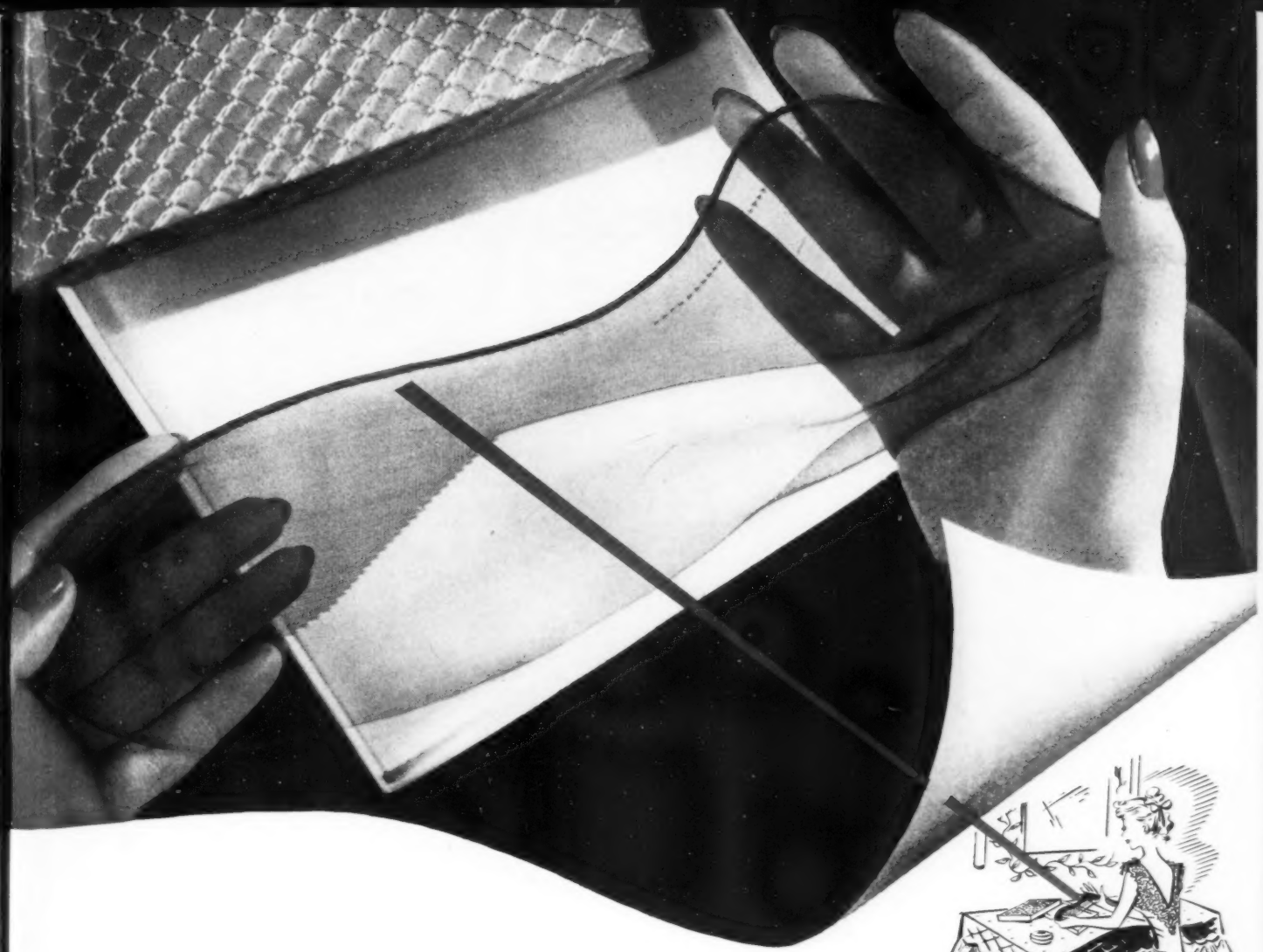
Think American — Talk American — Do Business the American Way

The accompanying chart, distributed by the National Association of Small Business, Inc., compares the United States with several other countries. The table at the right indicates number of hours the American working man must work to earn enough money to purchase various items, as compared with the hours worked to purchase the same items in Russia. Statistics are from government agencies.

	POPULATION	LAND AREA	AUTOMOBILES	ELECTRICITY	DAILY NEWSPAPERS	OIL	PERCENTAGE OF PRODUCTION	RADIOS	RAILROAD MILEAGE	TELEGRAPH WIRE MILEAGE	TELEPHONES
WORLD	2170,000,000	57,500,000	41,300,000	100%	EST. 3,000	100%	100%	125000,000	788,672	5,567,000	51,500,000
UNITED STATES	7.7%	6%	1 FOR 4 PERSONS	46.2%	1,749	61%	32.2%	1 FOR 3 PERSONS	30%	40%	1 FOR 5 PERSONS
RUSSIA	8.8%	1.4%	FOR 252	EST. 5%	28	6%	18.5%	FOR 45	6.2%	1.1%	FOR 188
GREAT BRITAIN*	2.2%	0.17%	FOR 22	6%	150	1.7%	9.2%	1 FOR 5	3%	4.3%	FOR 156
FRANCE	1.8%	0.34%	FOR 18	2.1%	85	0.7%	4.5%	1 FOR 9	5%	5%	FOR 27
SWEDEN	0.3%	0.31%	FOR 29	1.8%	135	0.15%	1.3%	1 FOR 5	1.3%	0.1%	FOR 6
ITALY	2.1%	0.2%	FOR 93	1.8%	16	0.03%	2.7%	FOR 43	1.4%	4.8%	FOR 72

UNITED STATES HOURS WORKED	TO BUY	RUSSIA HOURS WORKED
3 HOURS	DAILY FOOD FOR 5 PEOPLE	9 HOURS
1 HOUR	COTTON STOCKINGS	24 HOURS
3 HOURS	COTTON SHIRT	320 HOURS
2 HOURS	WOOLEN GLOVES	100 HOURS
4 HOURS	ALARM CLOCK	160 HOURS
15 MINUTES	TOOTH-BRUSH	4 HOURS
75 HOURS	LADIES COAT	1000 HOURS
30 HOURS	WRIST WATCH	1600 HOURS
3 HOURS	GALOSHES	160 HOURS
10 MINUTES	BOTTLE OF BEER	8 HOURS

**Figures taken prior to Socialist Government in Great Britain.*



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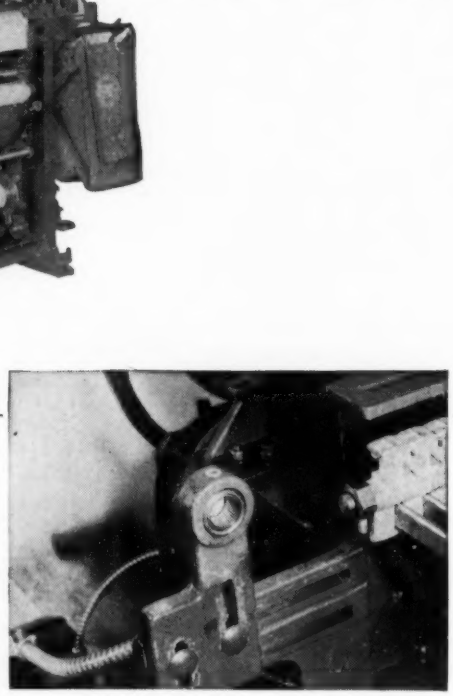

Close-up of whip roll support bracket shows closed end type (M-1616) Needle Bearing in self-aligning mounting.

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temporary assistance when and if needed. The hundreds of small retail outlets are described as being on a very different footing. This was first noted early in the last quarter.

In knitwear as in all other textile-garment and related lines a large part of ordinary production continues to seek disposal by means of small regional wholesale houses and little neighborhood stores located in the outlying parts of large cities or in suburban and rural sections. Thus far this year, the majority of such outlets have not been too prosperous, it is related. Mostly the smaller outlets have been trying to go along on scanty working capital. To compete with mail order and chain outfits, the small merchants have had to reduce their markups.

Such a condition, credit authorities state, has been promptly reflected in two principal ways: Some retail debtors are genuinely unable to pay promptly; some are reluctant to give up any part of the profits they made last year and earlier. There have been many requests for extensions. In numerous cases, a lateness of 60 days has become chronic.

Authorities offer the comment that a good many of the retail outlets that were set up since ending of the war already have become business casualties, but this was foreseen and the financial losses entailed by failure of this sort were comparatively small. A more serious problem is how to handle the marginal cases, where the creditor previously had a good record, but seems now to be unlikely for various reasons to be able to surmount his difficulties.

Hosiery Deliveries Suffice for Fall

The reduction in total volume of nylon yarn for the stocking mills during August will probably not prevent hosiery shipments continuing on a scale sufficient to provide enough merchandise for consumers this fall, according to authorities in the industry; but there is no doubt that the market has stiffened somewhat since early in summer, although there has been no perceptible buying rush among retailers or the public. At the present writing, all the branded lines

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AMW is now making a specialty of converting old 4-roll frames into 5-roll frames, thus eliminating one process in some cases, and is building new 4- and 5-roll drawing of 4- and 6-delivery type, with evenness test showing an average variation of as low as 14%. These rebuilt and improved drawing frames will handle staple lengths up to 2", and will give you 8 ends up on all 5-roll frames, with all ball-bearing top rolls and wick oiled bottom rolls.

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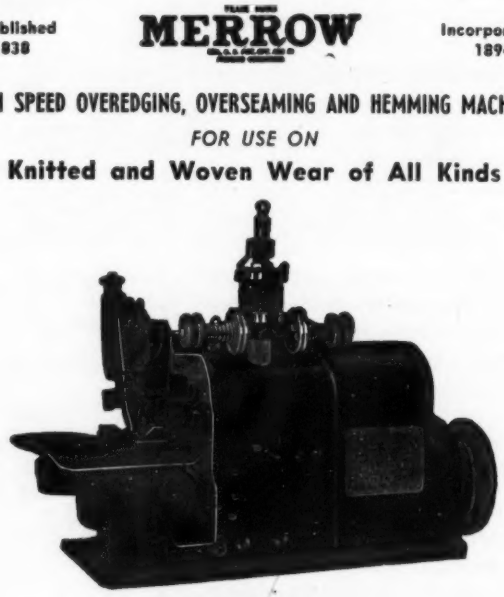

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are reported well sold up and prepared to do business up to the limits of the production through October. It is here if anywhere that shortages may become possible, but a number of branded mills say they could handle more orders now. Instead, they prefer not to solicit new customers, as they still are alloting some types of goods.

A number of the smaller sources have quoted slightly higher prices to the jobbers and it is understood others will take a like course. One of the larger wholesale houses reported being approached with the proposal to cover liberally ahead at a nominal price advance, but decided to defer making a decision on the theory that as long as the branded mills feel they can afford to hold the line a while longer there is no need for jobbers to agree to pay more for unbranded goods.

It also is stressed that with some manufacturers reporting net profits of ten or fifteen per cent on their operations during first half of this year, the jobbers and retailers believe the mills in general must be doing well enough for themselves during the current quarter. In view of the great rise in food prices and other essential items of the cost of living, those closest in touch with consumers believe it is a mistake for any hosiery producer to try to get all the traffic will bear at this time.

AN EYE ON THE KNITTING MILLS

Hudson Hosiery Co., Charlotte, N. C., has plans in progress for the erection of a two-story plant for the manufacture of 51-gauge hosiery.

Duke Hosiery Co., Statesville, N. C., a subsidiary of Chester H. Roth Co., Inc., manufacturers of men's hose, has been closed. Interests in North Bergen, N. J., have purchased the machinery.

Derby Underwear Co., Bowling Green, Ky., knit underwear, has plans maturing for a one-story mill at Campbellsville, Ky., at a cost reported to be over $200,000, with equipment.

Max Joseph has purchased a two-story building in Jersey City, N. J., and will equip for a plant for the manufacture of a line of knit outerwear. Improvements will be made.

Owen Osborne, Inc., women's full-fashioned silk hosiery, is in the process of making improvements in the mill in Gainesville, Ga., and has plans for the installation of an air conditioning system, new 51-gauge knitting machines to replace certain present equipment, and auxiliary machinery. Looping and seaming departments will be removed to another section of the mill to provide straight-line production facilities.

Will De Laine Hosiery Mills, Inc., recently organized in Charlotte, N. C., with a capital of $100,000, has plans for the operation of a knitting mill in Charlotte. E. W. Sachsenmaier and Robert Moeller, both of Charlotte, are the incorporators.

Louis Lavitt Co., Inc., Hickory, N. C., has been incorporated with a capital of $1,000,000 to manufacture knit goods. Louis and Samuel Lavitt, both of Hickory, are the principal incorporators.

Lynne Hosiery Mills, Inc., Mount Airy, N. C., infants' hosiery, has awarded a general contract for a one-story addition, reported to cost about $45,000, exclusive of equipment.

Sanford (N. C.) Hosiery Co., recently organized, has plans to begin operations at a new mill in Sanford, comprising a leased building. Luther A. Aldridge is president.

Correction in Article
"Ramie Today" (Aug. 1948, page 113)

On page 113 of the article "Ramie Today," (August 1948) the figures in a portion of Table IV were transposed after the article was released to the printer.

The table is reproduced as it appeared; it is incorrect:

Table IV (Incorrect)

Yarns Conditioned at 75° F, 50% RH

	Straight		Looped		Knotted		
	Breaking Load (gms)	Tenacity (gm/grex)	Breaking Load (gms)	Ratio (gm/grex)	Breaking Load (gms)	Ratio (gm/grex)	% Straight Elongation
Ramie	1522	1.304	2805*	1.197	960	0.938	7.3
Cotton	1140	1.114	1225	2.404	1461	1.252	3.9

(Incorrect Portion)

The table is corrected to read as follows:

Table IV (Correct)

Yarns Conditioned at 75° F, 50% RH

	Straight		Looped		Knotted		
	Breaking Load (gms)	Tenacity (gm/grex)	Breaking Load (gms)	Ratio (gm/grex)	Breaking Load (gms)	Ratio (gm/grex)	% Straight Elongation
Ramie	1522	1.304	2805*	2.404	1461	1.252	3.9
Cotton	1140	1.114	1225	1.197	960	0.938	7.3

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Discussion on Figuring the Cost of Blends

Question Briefed: *We are blending wool with synthetic fibers to obtain yarn at a specified cost. We have tried several methods for predetermining the cost of the yarn, but they have not proved to be entirely satisfactory. Any help your readers may provide would be greatly appreciated.* (CONTRIBUTOR No. 8041, *April*, 1948)

EDITOR TEXTILE INDUSTRIES:

I wish to submit a more detailed answer to the question posed by CONTRIBUTOR No. 8041. The methods employed by CONTRIBUTOR No. 8042 are satisfactory and suitable for practical mill men, but our method is in more detail.

The first problem is to find the price per pound of a blend of:

40 lbs of cotton at 35c per lb.
20 lbs of aralac at 60c per lb.
40 lbs. of wool at 1.20 per lb.

The problem is solved by alligation medial. This means that the medial, or mean price per pound of the mixture is to be found. The method employed and the solution found by CONTRIBUTOR No. 8042 are both correct—100 pounds at 74c per pound.

As proof, it can be stated: As the total mixture is to its total value, so is one part to its mean price; thus—100 is to $74.00 as 1 is to 74c.

The second problem is one where cotton at 35c per pound is to be blended with wool at $1.20 per pound in proportions to yield a mixture at 60c per pound. In this instance, quantities are to be found. CONTRIBUTOR No. 8042 solved the problem by alligation alternate and proved his solution to be correct by alligation medial.

The third problem is more complex and lends itself to several correct solutions. This problem is also solved by alligation alternate.

Restating the problem so that prices rise progressively, we can say: a blend of four different fibers is to be made as follows:

Cotton at 35c per lb.
Rayon at 65c per lb.
Aralac at 75c per lb.
Wool at $1.00 per lb.

These four items are to be mixed in proportions to yield a mixture at a mean price of 72c per pound.

This problem is a better example of the application of alligation alternate than the previous problem, because alternate solutions are possible. CONTRIBUTOR No. 8042 has found two correct solutions.

First solution:

					Weight %	Price %
72c	Cotton	35	3 lbs. at 35c =	$ 1.05	4	1.944
	Rayon	65	28 lbs. at 65c =	18.20	37⅓	33.704
	Aralac	75	37 lbs. at 75c =	27.75	49⅓	51.388
	Wool	1.00	7 lbs. at 1.00 =	7.00	9⅓	12.963
			75 lbs.	75)54.00	100	99.999
				72c per lb.		

Second solution:

					Weight %	Price %
72c	Cotton	35	28 lbs. at 35c =	$ 9.80	37⅓	18.148
	Rayon	65	3 lbs. at 65c =	1.95	4	3.611
	Aralac	75	7 lbs. at 75c =	5.25	9⅓	9.722
	Wool	1.00	37 lbs. at 1.00 =	37.00	49⅓	68.518
			75 lbs.	75)54.00	100	99.999
				72c per lb.		

In the first solution, items 1 and 3 have been linked together, and so have items 2 and 4.

In the second solution, the first and fourth have been linked together. The difference between the mean price of the blend—72c, and the price of the wool—$1.00, is 100 — 72 = 28. This represents the pounds of cotton to go into the blend. The difference between the price of the blend and the price of cotton is 37c; therefore 37 pounds of wool is to go into the blend. Items 2 and 3 (rayon and aralac) have been linked together and treated in the same way.

Another solution of this problem would be to find the sum of solutions 1 and 2, in order that a better balanced blend may be obtained. Adding the quantities of solutions 1 and 2, we obtain results shown in calculation A, page 184.

The sum of solutions 1 and 2 could have been found by double-linking the four items in solution 1 (see calculation B, page 184).

When 6 items are to be blended, triple-linking is resorted to; quadruple-linking for 8 items and so on. Colored pencils are useful for multiple-linking. A different color should be used for each separate series of links. This method prevents confusion and errors. Any one of the solutions could be used. If large quantities are to be blended—say 7500 pounds—the total pounds to be mixed is divided by 75 (solutions 1 and 2) or by 150 (calculation A).

7500 ÷ 75 = 100 mixings of solution 1 and solution 2.

8500 ÷ 150 = 50 mixings of blend in calculation A.

If it were possible to make the blend in one big stack, the quantities in solutions 1 and 2 are mul-

Calculation A

			Weight %	Price %
Cotton	28 + 3 = 31 lbs. at 35c	10.85	20⅔	10.046
Rayon	3 + 28 = 31 lbs. at 65c	20.15	20⅔	18.658
Aralac	7 + 37 = 44 lbs. at 75c	33.00	29⅓	30.555
Wool	37 + 7 = 44 lbs. at 1.00	44.00	29⅓	40.740
	150 lbs.	150)$108.00	100	99.999
		72c per lb.		

Calculation B

72c

Cotton	35	28 + 3 = 31 lbs.
Rayon	65	3 + 28 = 31 lbs.
Aralac	75	7 + 37 = 44 lbs.
Wool	1.00	37 + 7 = 44 lbs.
		150 lbs.

Calculation C

Cotton	31 × 50 =	1550 lbs.
Rayon	31 × 50 =	1550 lbs.
Aralac	44 × 50 =	2200 lbs.
Wool	44 × 50 =	2200 lbs.
		7500 lbs.

tiplied by 100, and those in calculation A by 50 (see calculation C).

The increase in fiber blending makes it necessary for textile men, whose knowledge of higher mathematics is limited, to learn how to compute by alligation. The four types of alligation are:

(1) Alligation medial.
(2) Alligation alternate.
(3) Alligation partial.
(4) Alligation total.

The first two were employed to solve the above problems.

CONTRIBUTOR No. 8072
Canada

Question on Varnishing Top Rolls on Spinning

EDITOR TEXTILE INDUSTRIES:

It is common practice to varnish leather rolls throughout preparation. Does anyone varnish the leather covered spinning top rolls? If so, will a mill friend kindly give his observations and recount advantages or disadvantages for varnishing ring spinning leather top rolls.

One advantage we assume would be that the leather roll may run in both directions regardless of piecing-in arrow direction. Are leather covered top rolls not usually varnished on account of costs?

CONTRIBUTOR No. 8101

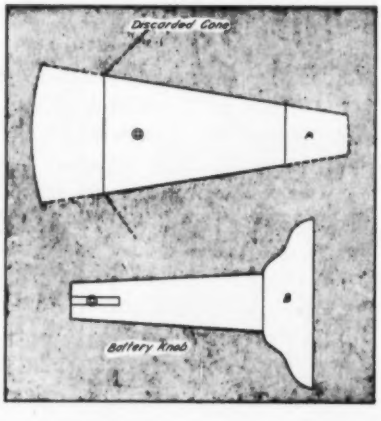
Cone on Battery Knob Holds Filling Tension

EDITOR TEXTILE INDUSTRIES:

Loose ends always provide a problem on Draper loom batteries, especially when the bobbin is transferred to the shuttle. I have seen a variety of springs and blocks used on battery heads for the purpose of holding the filling at the proper tension for the transfer. Some of these devices are a nuisance to keep clean, and oftentimes it is necessary to resort to a knife or some other means of removing the waste that accumulates.

We are now using a cone attachment on the battery to maintain filling tension for the transfer. The device was used first while we were running a large number of looms on 300 denier yarn for cargo chutes. We were constantly having trouble with bad doffs because of the filling coming loose by the time it reached the transfer point.

A cone was attached to the battery knob (see accompanying illustration). The cone was cut to fit the battery knob, and a hole was punched for the set screw that is used on most batteries. This attachment worked satisfactorily, so we had it installed on all looms.



The material is available at no additional cost, and any mill can make an adequate supply of these cones in a very short time. The device is very easily cleaned. When the knob is removed, the waste falls off the cone. The filling will retain its tension and will not slide and become loose as it did on the tapered end of the battery where the filling was wound.

Pointed paper cones are most suitable for this purpose because there is more taper. Enough of the cone should be cut off the small end (A in accompanying illustration) so that it fits snugly against the large end of battery knob (B).

The large end of the cone must be cut down to allow the battery knob to be fastened by the set

screws. The cones will last a reasonable length of time before it is necessary to replace them.

CONTRIBUTOR No. 8108

How to Prevent Cut Reeds

EDITOR TEXTILE INDUSTRIES:

Shuttle screws often protrude and cause damage to the reed while the shuttle is in flight. Such damage is frequent, regardless of how carefully the shuttles are checked. Looms may get out of line, the leather on box plates may wear out, washers may not be installed behind the screws, and continuous tightening of the screws in the eye and shuttle spring will cause the screw to protrude.

Added to the cost of replacement reeds is the cost of labor, time lost while the loom is stopped for repairs, and the seconds caused by the damaged reed. Most mills use shuttles equipped with steel screws, and damage to reeds often occurs.

If an all-bronze screw is used in place of the conventional steel screw, trouble with reeds damaged by shuttle screws will be minimized. Bronze screws can be obtained by specifying bronze to the shuttle manufacturer. The tensile strength of these screws is less than steel, but it is great enough to withstand the usual stress placed upon the shuttle. We have substituted bronze screws in all our shuttles, and the results have been very satisfactory.

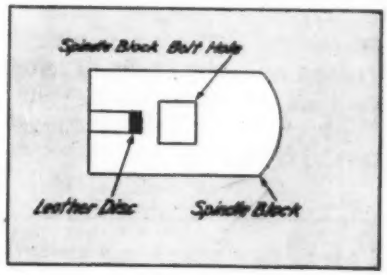
CONTRIBUTOR No. 8113

Leather Disc Saves Spindle Wear

EDITOR TEXTILE INDUSTRIES:

A suggestion that has prevented some waste and proved helpful in production is offered for the benefit of your readers who may be interested.

An oiled leather disc can be placed inside the hole in the spindle block on the loom so that the end of the spindle will rest against it. The piece of leather will prevent end wear and pro-



long the life of the spindle. To secure maximum benefits from this arrangement, it is necessary to have a very snug fitting disc. The accompanying illustration shows the location of the disc.

CONTRIBUTOR No. 8092

Pneumatic Hoist For Section Beams

Each slasher in operation at the Safie Mfg. Co., Rockingham, N. C., is provided with a pneumatic hoist for lifting section beams on and off the creel, as shown below. The hoist is mounted on an overhead track. Air is supplied from a central point, and the hoist is manipulated by a control cord. When the control cord is operated, an air valve on the hoist is activated to raise or lower the beam.

Synthetic or Metallic Rolls for Drawing

Question Briefed: *Comments from your readers are desired in regard to the relative quality of yarn made from sliver delivered on drawing frames equipped with synthetic rolls compared with frames equipped with metallic rolls.* (CONTRIBUTOR No. 8071, *May* 1948.)

EDITOR TEXTILE INDUSTRIES:

In an effort to be helpful to CONTRIBUTOR No. 8071, we are inclined to believe that he will have better running work in the spinning room by using synthetic top drawing rolls. The results that he is getting on the tests show an improvement of synthetic over the steel rolls.

We have learned by experience that a little wear on the necks of steel rolls will result in damage to the fibers; the flutes will mesh in too close and cause damage by cutting.

When putting on the synthetic rolls, the operatives should be cautioned against getting any oil on the cots. Just a little oil on a cot will cause many hours of interference with production. The people who put the synthetic rolls on the frames should be taught to keep them perfectly dry, picking them up by the middle section instead of on either end. A little oil on the cots will cause the fibers to stick to the rolls; in this case the rolls have to be removed from the frame and washed thoroughly, then dried before production can be resumed.

CONTRIBUTOR No. 8115

◆

EDITOR TEXTILE INDUSTRIES:

It is our opinion that CONTRIBUTOR No. 8071 will benefit by junking the old top steel rolls on drawing and installing synthetic rolls.

Synthetic top rolls produce better running work for us in the

spinning room, and the ends down per thousand spindles have been reduced by twenty-five per cent since we made the change several years ago. There is no danger of cutting the fibers when synthetic top rolls are used.

Either cork rolls or those made of a mixture of cork and rubber will prove highly satisfactory on carded yarns. The latter type requires less buffing than the former due to being harder.

CONTRIBUTOR No. 8116

Information Needed on Winding Machines

Subject Briefed: *In relating some of his experiences with winding machines,* CONTRIBUTOR No. 8059 *stated that 23s yarn was wound satisfactorily on Universal 50s for high speed over-end creels. When a change was made to 7s yarn on the same winders for parallel or twister creel delivery, very ugly mushroom cones were made. To remedy this trouble,* CONTRIBUTOR No. 8059 *reduced his winding speed fifteen per cent by making a new train of gears.* (CONTRIBUTOR No. 8059, *April* 1948.)

EDITOR TEXTILE INDUSTRIES:

The comment of CONTRIBUTOR No. 8059, in the April issue, is a good illustration of why it was considered worthwhile to prepare the current series of articles, "Winding Machines — Principles and Practices." If some 15 or 20 years ago this contributor could have read Articles 1 and 2, in the August and September 1947 issues, at the time when he was having trouble in winding acceptable cones on his No. 50 machines, he would have found it unnecessary to go to all the trouble and expense of making a new train of gears. All he had to do was to change the wind pulleys and belts, as was covered in the articles.

As was stated in one of the articles already published, one of the biggest headaches of a winder fixer is to prevent packages from bulging, and the solution is almost always found in either changing the number of winds (number of revolutions of the package to one stroke of the thread guide), determining the correct relation of tension to pressure, or a combination of both.

J. W. STRIBLING

AMATEUR PHOTOGRAPHERS ATTENTION!!

You can tell a story with your camera. It may be a hint on machinery maintenance — it may be a "kink," short cut, safety or human interest shot.

Pictures accepted for publication will be considered as editorial material, and payment will be made for them. Give your name and address and enough information for a suitable caption.

Address: "Snapshot" Editor, "Textile Industries," Grant Building, Atlanta 3, Ga.

Question Presented on Boxing Shuttles

EDITOR TEXTILE INDUSTRIES:

When running a large shuttle and quill, we find that we have considerable trouble in adjusting the box on the loom to keep the shuttle boxing properly.

If the adjustment of the shuttle box is made at the time the quill is full of yarn, we find that when the quill becomes approximately two-thirds empty, the shuttle will not go home in the box.

If the box is adjusted when the quill is about two-thirds empty, then when a full quill is transferred to the shuttle, the shuttle has a tendency to bounce out of the box and the loom slams off.

We are running an 8¾-inch bobbin, Columbian type shuttle, E-Model loom, and 5s to 14s filling yarn.

We should greatly appreciate any assistance that the readers of TEXTILE INDUSTRIES may offer.

CONTRIBUTOR No. 8105

Answer to Question on Filling Breakage

EDITOR TEXTILE INDUSTRIES:

The reasons for filling breakage are so numerous that it is difficult to point out a single reason, especially from such little information contained in the question by CONTRIBUTOR No. 8066. Assuming breaks are entirely too frequent, it is possible that the yarn is too dry and requires conditioning. If the breaks occur continuously at the same place, the cause and remedy can be determined more easily.

If breaks are scattered, usually the reasons can be traced to the yarn condition. Occasionally, a damaged shuttle or bobbin is the source of trouble. Shuttle and bobbin breaks are uncommon, whereas, unconditioned yarn causes breaks to be scattered over the entire weave room.

When yarn is too dry, it has a tendency to whirl off the bobbin in a series of loops, becoming entangled, and snapping off. Under these circumstances, it will often be noticed that if the weave room is high in humidity, the bobbins on the looms absorbing moisture to correspond with humidity, will weave satisfactorily, whereas a new supply coming in from the quilling department will usually be dry and cause many filling breaks for the first hour or two.

It is possible that the filling breaks are due to battery conditions. Are settings correct? Check bobbin guides and transfer forks for sharp edges or rough spots. The foregoing reasons also could restrict breaks to a few looms unless the looms are really aged—and the X2 is not.

It is possible that the fixers are young and relatively inexperienced. They may lack the experience necessary for judging worn box leathers, picker settings, pick, and check and many other reasons

tor yarn breaks. Changing pickers at each new warp mount (regardless of condition of former picker) is how one mill manages to keep true shuttle flight and the prevention of many other maladjustments caused by enlarged picker holes. Do yarn breaks measure into the right hand box? If so, check picker settings and pick.

The right hand shuttle box can be the cause of many yarn breaks in dissimilar forms. One plant uses the open box entirely with marked success in the prevention of right hand filling breaks. Some millmen advise against the open box, as it tends to "cock" the shuttle coming in. But if pick and flight is true from the opposite side, the open box will give much better results: less yarn breaks, less drag-ins and less oil stains.

Are the yarn breaks at the edge cutter? Perhaps the cutter is too close, especially if the yarn is free with only brushes for tension and to keep the eye threaded. On looms with the most breaks, try furring the back wall to prevent too much ballooning action and to help keep the wind from bunching off.

The shedding motion may be timed too early, thus cutting the yarn as the edges close. This breakage will generally show as a full length pick in one shed, but on other picks it may be sheared off exactly at the edge or one or two dents inside the outer dent. Sharp reeds are also a cause of trouble. Temples set too close will also shear the filling yarn at the edge. Tight warp tensioning causes a narrowing of cloth and tends to shear the filling yarn at the edges. If the yarn is sheared at the edge or inside, timing the harness late will usually clear up the trouble. Caution should be exercised in setting the shedding motion. Otherwise, if the shed closes too late, teardrops may result.

Defects leave telltale signs that clearly indicate the most likely source of what and where to look for prevention of the trouble. If all breaks are common on the left side only, it would not be reasonable to point to the harness shedding, but it is logical to inspect the feeler tip. If the break occurs only on the left side on the second pick after the transfer, the eye is unthreading or the shuttle fails to thread.

CONTRIBUTOR NO. 8075

Trash Can Holder Aids Cleanliness

This trash can is shown in place on a holder. The holder prevents animals and scavengers from overturning the container thus making the contents available to be strewn over the grounds. It presents a neat appearance, and provides a definite location for the can.

Screw Simplifies Loom Adjustment

EDITOR TEXTILE INDUSTRIES:

All Gem Head Draper looms with motor drive come equipped with ½-inch bolts on the picker shaft box. On the drive side, the rear picker shaft box is difficult to reach to make repairs when a box or bolt is damaged. Sometimes several hours are required to replace this bolt and in some instances it is necessary to loosen the friction box to replace the bolt.

Repairs can be simplified by substituting a ½ x 2-inch cap screw in place of the bolts. The cap screw can be tightened easily by holding the nut with the tips of the fingers on the picker shaft box (under the friction box), thereby completing the operation with less difficulty.

CONTRIBUTOR NO. 8098

Editor's Note: According to the Draper Corporation, no Gem Head looms have been manufactured in recent years. This suggestion is presented for the benefit of those who are continuing to use the older model looms.

$100 for Best Kink or Short Cut

(Ends November 15, 1948)

ONE HUNDRED dollars will be awarded the contributor who furnishes the most helpful short cut, kink, time-saving device, cost-cutting suggestion, or quality improvement idea by November 15. The contest may be entered by any reader of this magazine, but the kink must not have been published elsewhere.

In sending in ideas, give complete description and where possible accompany description by sketch. Finished drawings are unnecessary. Participants are not restricted as to number of kinks submitted for consideration.

Only one award will be made, but non-winning contributions will be paid for at regular rates if used. Advise in original correspondence if participant's name may be used, or if contributor number is preferred.

All entries must be postmarked not later than midnight of November 15, 1948. Address: Editor "Textile Industries," Grant Building, Atlanta, Georgia.

Stark Reid and Asbeston Plants
Hogansville, Ga.

Crackers

Volume IV; Number 3 HOGANSVILLE, GEORGIA, AUGUST, 1948

Waste Control An Important Factor Today

WASTE CONTROL

By Frontis Osborne

Editor's Note: Readers of this magazine will be surprised to note the absence of our "Exclusive" tag on this article. A reprinted article in "Textile Industries" is almost unheard of, but in this particular instance we are happy to advise that this article by Frontis Osborne appeared first in "U. S. Crackers," the employee publication of the U. S. Rubber Company's plants located in Hogansville, Ga.

The paper reached our desk after our regular closing date, but the story is too well told not to give it the broader circulation that we think it merits.

Why? Because it ties in with the 19-page story on "Waste Reduction and Control" which appears in the preceding pages of this issue; it demonstrates that top management has recognized the importance and the costliness of waste, and is doing something about it; and it dra-

Top left, Guy Houston, ply twister tender, is shown examining beam which is about ready to creel. Tenders give close attention to beams at this stage in order to run them to lowest possible level before cutting out.

Pictured in the top center is J. W. Denney, holding in left hand the average amount of soft singles waste made per beam creeled during 1947. In his right hand he holds the average amount per beam creeled at the present time. This waste reduction has resulted in a $3,669.00 savings in Stark Mills Twisting department for the first six months.

Top right, Bernard Lowery, section man, and Vender Robinson are seen examining waste record sheet which shows actual amount of waste made per beam creeled each shift. These sheets are posted in the department in order that each shift may compare its waste experience with that of other shifts.

Lower right, Ethel Hines is shown placing in reworkable waste box the small amount of waste caused by breaking off short lengths of roving at the beginning of a new creel bobbin. Only one ounce of waste is made here each hundred bobbins creeled; yet in a year's time at Stark Mills this waste amounts to substantial poundage, and if allowed to fall on the floor and become mixed with floor sweeps would result in a loss of about $3,450.00.

matically gets the story across to the textile operatives of the tremendous part that they themselves play in waste reduction—and in the final cost of production.

Orchids to the author, to management, and to the able editor of the employee publication, which he is employing in such a useful manner.—J. C. F.

EACH day it becomes more and more important that we make every effort to reduce waste wherever possible. Labor costs and costs of raw materials are continually rising while sale prices of waste are steadily falling. Thus the difference between value of finished goods and that of salable waste becomes even greater.

Due to the importance of waste, our textile division has placed certain men in charge of waste control work in our textile plants. The main duties of these waste control men are:

1. To aid in reducing all waste to lowest practical amount.
2. To increase return from waste.
3. To investigate new and/or more valuable uses for waste.
4. To review and investigate waste performance records.
5. To reduce cost of handling, processing, and packaging waste.
6. To establish and maintain proper waste standards.
7. To constantly strive to keep all personnel waste-conscious in order that our plants may experience good waste records and thus remain competitive in this respect.

During the latter part of 1947 standards were established for the different types of waste made in each department throughout our Hogansville plants. A waste standard represents the minimum amount of waste considered necessary in making products of specified quality, from properly maintained equipment, operated by experienced employees, using due care through responsible supervision.

A waste standard is a goal—something to work towards. It represents the amount of waste that should be made with our present equipment by careful employees working at all times to prevent any unnecessary waste. Careless or indifferent workers are responsible for most waste standards not being met.

Too little thought is given to the making or proper handling of small amounts of waste, but these small amounts multiplied over a year's period become large amounts and indeed represent great losses. For instance, consider the small amount of waste broken from new bobbins of roving by spinners in process of creeling, along with the short tail left by old bobbin after new bobbin is creeled in.

Total weight of this waste is only about 1/100 of an ounce per bobbin creeled, such a small amount that it is often allowed to fall to the floor where it becomes mixed with sweeps. Waste from this source in our Stark Mills plant alone for a year's period amounts to many pounds and if sold as sweeps would result in a loss of $3,450.00. No item is too small to warrant the attention of all concerned.

As an illustration of our waste losses and as an example of what can be done, let's take a look at Stark Mills twisting department's soft singles waste, which is chiefly the yarn left on beams at ply twisters when beams are cut out for the tying-in of new beams. During the year 1947, considerable poundage of soft singles waste was made here. This amount of waste is equal to:

1. 114 full beams as received in the department.
2. 300 full doffs from ply twisters.
3. 150 boxes of respooler yarn.
4. Production of 1 ply twisters for 3 months.
5. Production of 39 ply twister spindles for an entire year.
6. Loss of $16,000.00 for the year.
7. Loss of $53.00 per day.
8. Loss of $17.66 per shift.
9. Loss of $2.21 per hour.
10. Amount of cord used in making several thousand passenger car tires.

Due to efforts of department employees and supervision this waste was reduced 42%. This reduction was brought about chiefly by running beams to lower level before creeling and represents a saving of $3,669.00.

Waste has an important bearing on the cost of producing a pound of finished goods. Keen competition in the textile industry makes it imperative that we get our input of raw cotton through the different processes into finished goods with the least amount of waste possible.

In order to reduce waste to the lowest workable amount, the cooperation of all personnel in our plants must be maintained. Each and every job has some effect either directly or indirectly as to the amount and type of waste made. Each of us as individual employees of our company can be of great benefit in making our waste control program a success. By striving to reduce waste, by not permitting waste to become mixed, by suggesting methods that can be used to decrease waste or increase its value, and in many other ways each of us can play a big part in keeping our waste problems under control.

Reduced waste lowers the cost of our finished goods, which in turn permits us to meet our competitors' costs. Meeting competition insures good wages and increases job security. In the end, each of us helps to determine our wage rates and the need for our jobs by our waste experiences each day. By helping to reduce waste we help ourselves.

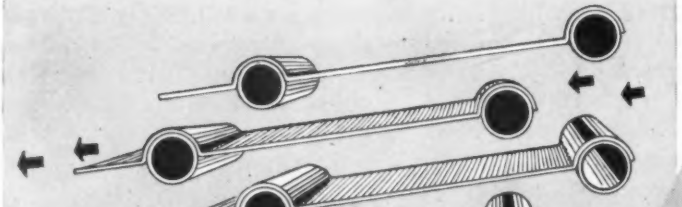
Employees are urged to turn in written suggestions in regard to waste-saving methods. Each suggestion will be considered by the Suggestion Awards Committee and the employee awarded according to value of suggestion.

Existing Test Standards Accepted by U. S.

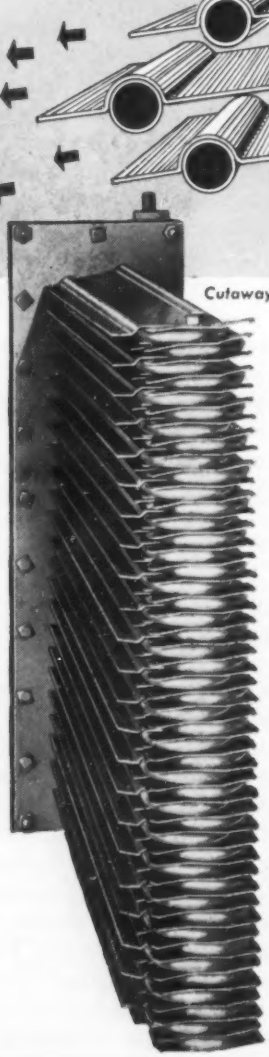
The Federal Specifications Board has announced that for the purpose of government procurement the textile industry testing standards of 65% relative humidity and 70° F will continue to be recognized. Where the materials are to be used under unusual conditions, they will be tested under the conditions expected. Most members of the industry objected to the proposed change that was suggested, which was 50% relative humidity and 73.5° F.

NOW A SELF-CLEANING UNIT HEATER

TEXTILE THERMOLIER



Cutaway view of unobstructed air flow passages, (drawn to exact scale.)



Features of TEXTILE THERMOLIER in addition to *self* cleaning:

- Maximum capacity provided at all times and annoying and destructive water hammer eliminated because built-in pitch of the tubes and internal cooling leg assure continuous drainage of condensate.
- Safety and durability assured with leak-proof tube-to-header construction.
- Plain thermostatic trap, the simplest and least expensive kind of trap, made practical because of Thermolier's exclusive internal cooling leg.

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Free flow of air self-cleans the heating surfaces. Lint, fly and dirt sweep clean from horizontal trailing edge.

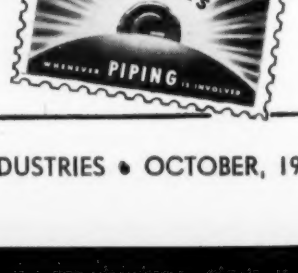
Incorporating all the features that have made the standard THERMOLIER a leader, the new TEXTILE THERMOLIER banishes the problem of clogging and loss of heating capacity, and cuts cleaning to almost nothing.

In actual weave room test, TEXTILE THERMOLIER proved its superiority:

- A conventional unit heater clogged solid in four days. Its heating capacity was lost as clogging increased. Finally it had to be shut down for a prolonged cleaning period.
- After three weeks of operation, TEXTILE THERMOLIER showed negligible accumlation. It was quickly cleaned with an air hose.

GRINNELL

GRINNELL COMPANY, INC.
Providence 1, R. I.



NEW EQUIPMENT
AND MATERIALS

New Vertical Opener by Saco-Lowell Shops

A new vertical opener, Model S, has been announced by Saco-Lowell Shops, 60 Batterymarch St., Boston, Mass. The machine consists of the following basic assemblies: the cylindrical housing, the beater, adjustable grids, and the drive.

The housing is made from steel plate rolled and welded into a fireproof structure 5 feet in diameter and 5 feet high. Two sets of doors are provided, two large ones built into the side of the housing located at any two of four possible places which may be most convenient, and four cleanout doors on floor level.

The beater is assembled on an oversize steel shaft. The pick assembly consists of six smooth steel plates varying in diameter from 18" at the lower stage to 33" at the top. Plates are spaced 6" apart by means of cast iron separators. Separators and plates are permanently locked into an integral assembly. Picks are fastened to the edge of the discs and can be renewed if necessary without disturbing the plate assembly There is a total of 34 picks.

The 120 grid bars are arranged in four groups of 30 each with equal spaces between them throughout their entire length, so that 15 bars run off the elements of the cone in the direction of cylinder rotation, and 15 in the opposite direction. Each group of 15 bars can be adjusted to a different setting.

The beater and grids are subject to three adjustments: (1) the distance from the tip of the pick to the nearest grid bar; (2) the opening between successive grids; and (3) the speed of rotation of the beater.

The new drive consists of a swing bracket bolted to the housing. This bracket supports a 5 hp, 1200 rpm motor in a vertical position. The shaft of the motor extends upward and supports a single driving pulley belted directly to the driven pulley on the beater shaft.

Saco-Lowell Model S vertical opener.

Du Pont Acrylic Fiber Designated "Orlon"

The Du Pont Company has adopted the trade-mark "Orlon" for a synthetic textile fiber on which it has been conducting research for several years, and which has previously been known only as Fiber A.

Technically the material is called polyacrylonitrile fiber. Quantities required for the development work are being made in a laboratory-scale pilot plant.

"Orlon" acrylic fiber offers some properties which the company said are outstanding contributions to the textile industry. Its resistance to degradation by sunlight commends it for use in awnings, automobile tops, and other outdoor uses. Its resistance to chemical attack, particularly by acids, and its ability to withstand elevated temperatures fit it for use in filtration applications and chemical-resistant cordage and threads.

The aesthetic qualities of fabrics made of "Orlon" are demonstrated in household curtains which are easily laundered and resist deterioration by sunlight and atmospheric gases. The fabrics are reported to have a warm hand and are supple.

New After-Treatment Improves Wash Fastness of Direct Dyestuffs

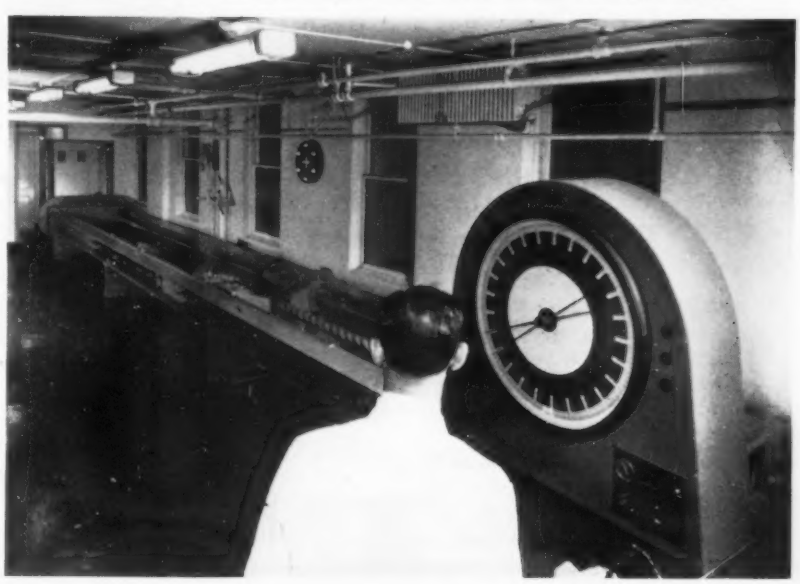
A new group of "Cuprofix" colors and Cuprofix after-treatment introduced by Sandoz Chemical Works, 61 Van Dam St., New York 13, N. Y., is reported to improve the fastness of cellulosic fibers to home laundering, hot wet pressing and perspiration.

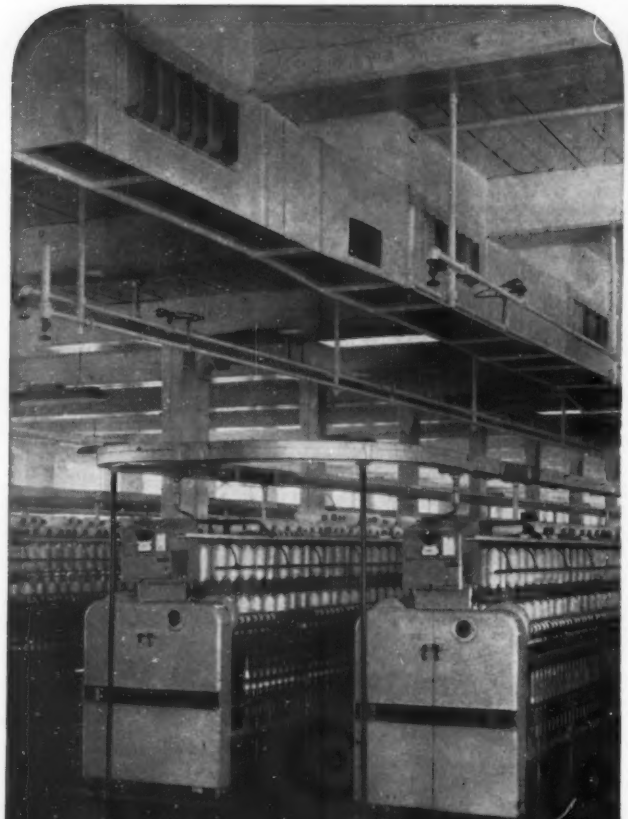
Mill tests on package dyeing of yarn intended for a wide variety of purposes ranging from cotton hose and sport shirts to rayon suitings, show a wash fastness rating of 4 to 5 when certain direct dyes are treated with Cuprofix, according to the manufacturer.

Cuprofix is a cation active resinous compound to be used with certain colors indicated as Cuprofix colors. It is a pale greenish powder easily dissolved in hot water.

The process calls for a short aftertreatment with 1 to 3% of Cuprofix at a temperature of 160° F following the usual procedure for direct colors. After the yarn has been rinsed well

Laboratory technician at Whitlock Cordage Co. of Jersey City, N. J., tests a Manilla hemp rope on a new type horizontal tensile testing machine recently developed by Baldwin Locomotive Works. Designed to test long specimens with high elongations at loads up to 120,000 lbs., the machine takes specimens from ½" to 4" in diameter with a maximum stretched length of 25 feet under full test load.





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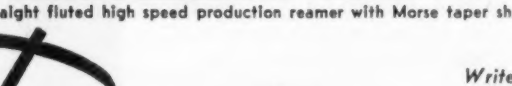


Straight fluted high speed production reamer with Morse taper shank.

Dennison

Write for catalog and price list.

DENNISON MACHINE TOOL CO.

1300 North 22nd St. — Box 2251 — Phone 1376L — Hickory, N. C.

to remove all traces of salt or other anion-active materials, the previously dissolved Cuprofix is added to the cold fresh bath, the temperature is raised to 160° F and run at this temperature for 30 minutes.

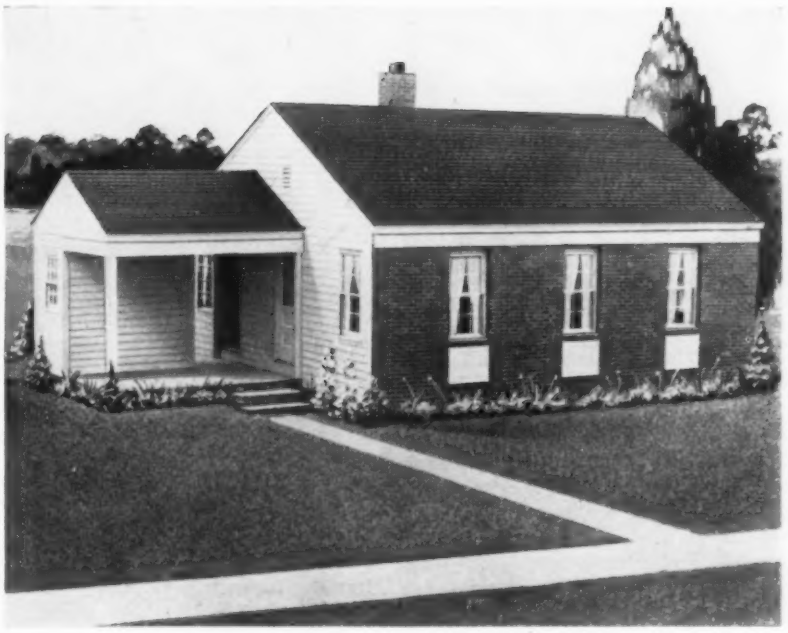
Prefabricated Homes for Industrial Housing Projects

Factory-engineered and factory-built (prefabricated) houses that can be erected in a day and completely finished inside and out within a month are being manufactured by Knox Corporation at Thomson, Georgia.

Four, five, six, and seven-room houses of various designs are available from the firm. Site planners and civil engineers who can layout a sub-division and plan the extension of utilities, are available for those concerns interested in planning industrial housing.

Houses can be manufactured according to specifications to meet a particular mill's requirements. First the manufacturer has an architect draw basic floor and exterior design plans for 4, 5, 6 or 7-room houses. Building specifications are then compiled to incorporate modern construction and engineering features. Production engineers then break up the basic house plans into interchangeable units for fabrication in straight-line production in a factory. These units are engineered to meet the architect's specifications and construction and convenience standards of custom home building.

The foundation for the houses is prepared before delivery of a house. The panels and materials for the house are packed on a specially-designed trailer so that they may be removed at the site in the sequence of use.



A prefabricated 4-room house by Knox Corporation.

Extractor for Skein Yarn Soaking Operations

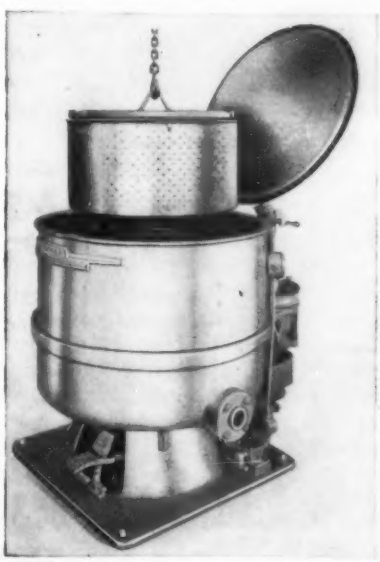
Fletcher Works, Inc., Glenwood Ave. and Second St., Philadelphia 40, Pa., has developed a new extractor especially for use with cake and skein yarn soaking operations. This machine is an underdriven, open top model built on the "super-self-balancing" principle of the 30" Fletcher "Junior" extractor.

In addition to the usual permanent basket, supplied in this case without top ring, this extractor is equipped with several removable baskets. These removable baskets are made of stainless steel, have a unique lifting arrangement, and although they are securely locked in place while running, can be inserted and removed with ease and dispatch.

A complete soaking installation consisting of steam jacketed mixing tank and soaking vats, recovery tank, loading and unloading table, and hoist with monorail, is also available from this firm.

The advantages claimed for this arrangement include (1) appreciable saving in labor, (2) less yarn handling with corresponding improvement in quality of yarn, and (3) less floor space required.

Extractor for soaping operations.



New Line of Dyes For Cotton Printing

A new line of dyes, Calconyl Double Solutions, has been introduced by the Calco Chemical Division, American Cyanamid Company, Bound Brook, N. J. Calconyl Double Solutions are stabilized azoic dyes requiring acid aging, recommended especially for cotton printing but can be used on viscose.

The new line of yellows, reds and scarlet are reported to be most desirable because of their excellent brightness and economy in full shades. They have very good fastness to light, washing, chlorine, perspiration, dry cleaning and hot pressing, and offer a wider range of shades in the same pattern than are obtainable when printing on naphthol-prepared material.

It is claimed that they are satisfactory for use in patterns along with other acid aging types of dyes such as soluble vats or resin-bonded pigments.

"Scotch" Textile Tapes

Four new "Scotch" brand tapes designed to meet the special requirements of the textile trade have been announced by Minnesota Mining and Manufacturing Co., 900 Fauquier Ave., St. Paul, Minn. All four tapes have pressure-sensitive adhesive, enabling them to grip tightly immediately upon contact, according to the manufacturer.

Tapes 280 and 925 are for holding the ends of warp threads during warping and slashing operations, and for sealing holes in Jacquard pattern cards when modification of the cards is necessary.

Tape 916 is for sealing outer wraps of warps to protect against damage in shipment and for holding the final

lap of a roll of cloth to prevent unwinding during the subsequent handling.

No. 400 Double-Coated Textile Tape is for holding yarn ends on creel, for adhering fur or felt in shuttle, and for starting the wind of cloth on "Simpson" shells. No. 400 has pressure-sensitive adhesive on both sides.

Steam Generator Has 3-Way Burner

A new steam-generating unit with a 3-way fuel burner, now makes it possible for industries requiring process steam to use heavy oil, light oil, or gas in the production of the steam.

Manufactured by Orr & Sembower, Inc., Reading, Pa., the new unit is said to require only 10 minutes or less for fuel changeover and come to full steam pressure within 18 minutes. The "Powermaster" ranges from 15 to 200 hp and is fully automatic. It burns heavy fuel with the same complete clean combustion with which it burns light oil and gas. Fully automatic operation of heavy fuel combustion is another feature of the unit.

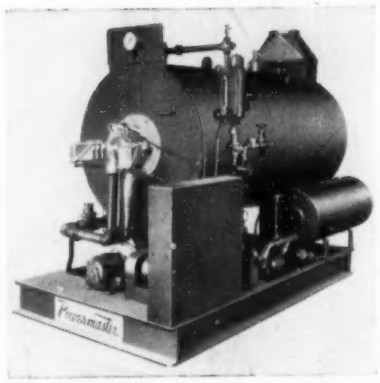
2,000-lb. Fork Truck for Narrow Aisles

A new, compact, gas-powered Tract-R-Lift fork truck, with 2,000-lb. capacity at 24 inches from heel of fork, has been announced by Tract-R-Lift Corporation, 605 N. Aberdeen Street, Chicago, Illinois.

Measuring 28" wide by 61" long by 60" high and weighing 3,050 lbs., this new Tract-R-Lift has been designed for materials handling through narrow doors and aisles and in cramped quarters. Turning radius inside is 6 inches; outside 67 inches.

Speeds up to 10.9 mph forward and 8.9 mph in reverse are provided, with low speed gears in both forward and reverse. Power is furnished by a 4-cylinder, water-cooled Waukesha ICK gasoline engine, capable of handling full loads up inclines as steep as 15 degrees.

The Tract-R-Lift fork truck.



"Powermaster" steam generator.

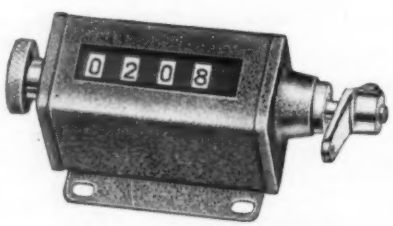
Ball Bearing Tape Tension Pulley

Production of a new type of anti-friction tape tension pulley has been announced by SKF Industries, Inc., Philadelphia, Pa.

An outstanding feature claimed for the pulley, which can be mounted on all types of spinning frames without the need for special brackets, is the use of aluminum for the four-inch shell and shields. The pulley is mounted on a ball bearing having a stationary shaft and is supported by plastic blocks which fit spinning frame brackets now in use.

New Stroke and Rotary Counters

The Durant Manufacturing Co., N. Buffum Street, Milwaukee 1, Wisconsin, has announced the addition of a new series of "Y" reset stroke



The "Y' reset counter.

and rotary counters to their line of Productimeter counting and measuring machines.

The "Y" series comprises several models that are small and compact, and require a minimum of driving effort. They are accurate and durable, designed especially for incorporating as an integral part of business machines, laboratory equipment, textile machines, and metal working production machines of all types.

Both the stroke and rotary models are available in reset and non-reset styles, in 3, 4, 5, and 6 figures capacity. The length of the case ranges between 1-1/6 and 2¼", depending on the number of figures; the width is .960" and the height 1.238".

The figures on "Y" counters are black on white background, .166" high by .097" wide. They are clear, legible, baked on the metal surface.

Dust Mask Provides Low Cost Protection

A protective mask consisting of a plastic shield, which is held in position by an adjustable elastic head band, and replaceable laminated filters of extra thickness, is being marketed by General Scientific Equipment Co., 2700 W. Huntingdon St., Philadelphia 32, Pa. It protects throat, nose and bronchial tubes from larger particles of non-toxic dusts that irritate these membranes, causing discomfort and increased susceptibility to infection.

Two-Roll Padder Features Microset Adjustment

Cook-P&N Machine Company, Inc., 365 Dorchester Ave., Boston 27, Mass., has announced production of a two-roll microset padder.

The machine has especially designed box type frames of fabricated steel. The top roll is stainless steel covered and bottom roll is rubber covered. Both rolls revolve in self-aligning roller bearings and shaft extensions are protected with covers.

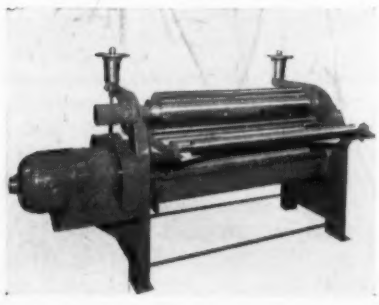
Entering side of rolls is equipped with protective finger guard for safe operation. Tank is arranged so that the delivery side can be swung down for easy cleaning. Entering end of machine has rubber expander and stainless steel guide rolls arranged so that fabric can be immersed or stop treated.

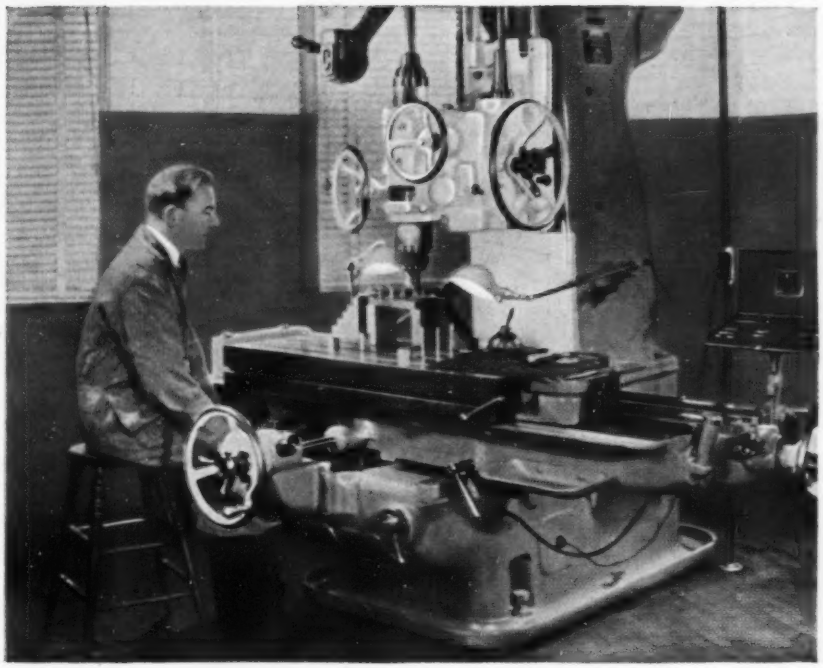
Pressure is exerted through microset.

The drive consists of a motor mounted on a steel base attached to the frame. It is elevated to prevent splash drainage and has a guarded chain drive to the bottom roll.

All parts except motor and ball bearing housings are of steel.

Two-roll microset padder.





VISIBILITY. Color Conditioning eliminates glare . . . reduces eyestrain and fatigue . . . provides the correct degree of "brightness" within the worker's field of vision.

SAFETY. The Du Pont Safety Color Code helps prevent personnel injury by "pointing-up" danger areas. Colors and symbols also identify first-aid and fire-protection equipment.

MORALE. A cheerful environment for employees pays off in better work. Color Conditioning in washrooms, cafeterias, etc. helps promote better employee-management relations.

DU PONT COLOR CONDITIONING

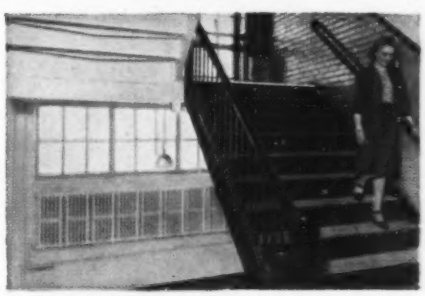
. . . helps employees produce more

. . . helps plants increase profits

CARE OF EQUIPMENT. Experience proves employees take better care of machines and equipment that have been "dressed-up" through Color Conditioning.

DAY by day, hundreds of industrial plants throughout the country are proving the value of Du Pont Color Conditioning . . . in boosting worker productivity . . . in improving plant production. This scientific painting plan helps employees see better, feel better, work better . . . helps cut rejects, improve the quantity and quality of output.

And maintenance costs are reduced because the Du Pont paints specially formulated for the Color Conditioning program are rigidly pre-tested to assure durability and application economy. Learn how maintenance painting can pay *extra dividends* in your plant. Send coupon, below.



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Color Conditioning

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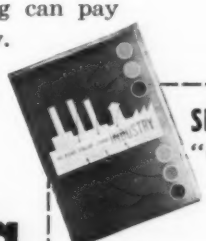
. . . THROUGH CHEMISTRY



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STRAIGHT SIDE WARP SPINNING BOBBIN

The spindle top fits the "cushion grip" with a gentle squeeze to make top-drive contact, which breaks sharp and easy without drag or pull in doffing.

A straight side bobbin and a straight side spindle acorn mean constant uniform clearance at this point, which is essential in maintaining top suspension drive.

All this and TOUGHNESS *too*

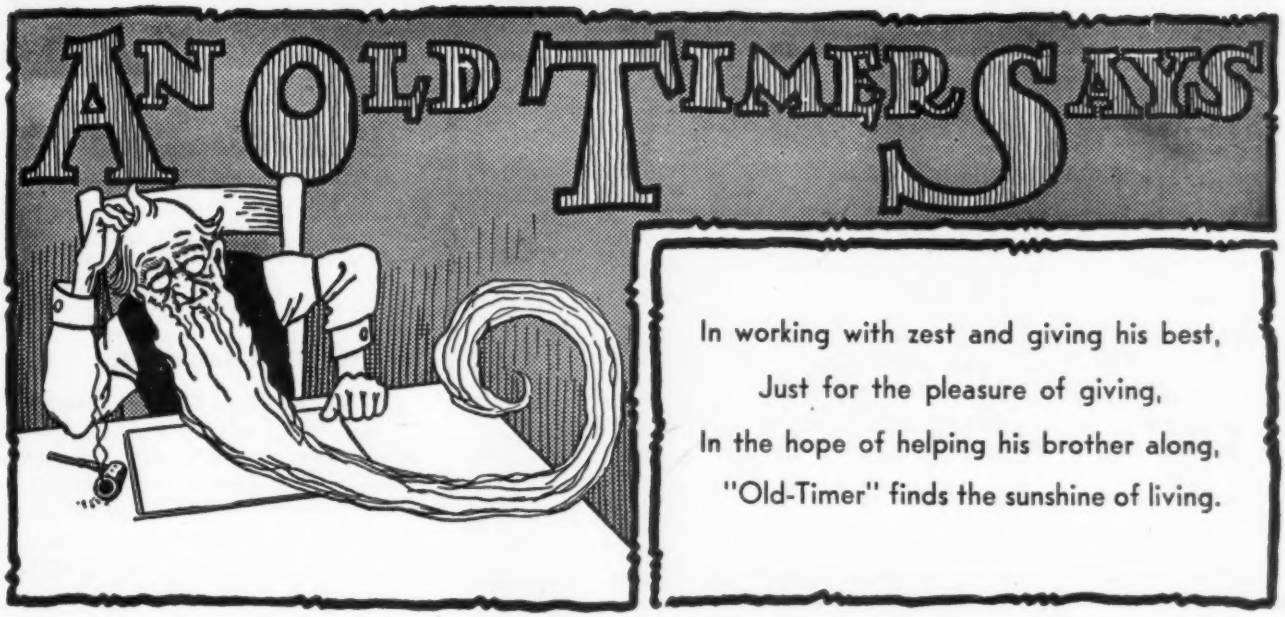
Added to these exclusive and outstanding features of the SONOCO Bobbin is our scientific treatment by impregnation for toughening the laminated fibre against rough handling between spooler and spinning frame.

No other warp spinning bobbin has been developed to incorporate all of the SONOCO Bobbin features which are proving their advantages in ever increasing use.

SONOCO PRODUCTS COMPANY

BRANTFORD ONT. HARTSVILLE S. C. MYSTIC CONN.

DEPENDABLE SOURCE OF SUPPLY


AN OLD TIMER SAYS
In working with zest and giving his best,
Just for the pleasure of giving,
In the hope of helping his brother along,
"Old-Timer" finds the sunshine of living.

The Old Superintendent Makes Good

WHAT WE are about to relate now, gentlemen, is not only a source of great satisfaction to OLD-TIMER, but corroborates the many arguments we have offered you in the past 25 years that a man is "never too old" to acquire an education—to improve his personality, to adapt himself to modern manufacturing conditions, and to keep himself right up-to-date with the younger men in the textile business.

The superintendent of this plant is what many people term an old man. But old in years only, because he has proved himself a *young* man by his intensive study, not only of the new methods of modern manufacturing, but far more important he has become adept in the study of human relations.

When we explain to you that this superintendent has been at this plant for a number of years (the plant was on coarse work of not a very high grade and then when purchased by another firm, had all of the old cotton machinery thrown out and modern machinery installed to manufacture wool and rayon fabrics), we believe you will agree that he was up against a pretty tough problem to adapt himself to radically different conditions.

We were so impressed with this man's work, his conversation, the immaculate condition of his mill, that we were very anxious to know what his employer thought of him. In conversation with the general superintendent we gradually led the conversation around to the superintendent of this mill. During this conversation with the general superintendent, the head of the firm, who is operating executive of all the mills in this group, dropped in the office and, knowing him personally, we thought we would find out if the head of the firm knew anything about this old-young superintendent of one of their plants. So we let fly with our questions. The general superintendent and the head of the firm both spoke very highly of the old-young superintendent.

Here, gentlemen, we believe is an important lesson for all textile operating executives, both young and old. If this man who is absolutely self-educated, can adapt himself to such radically different manufacturing conditions and can come up from the old school of years ago when if an operative did not toe the mark all you had to do was pay him off—well, what do you think?

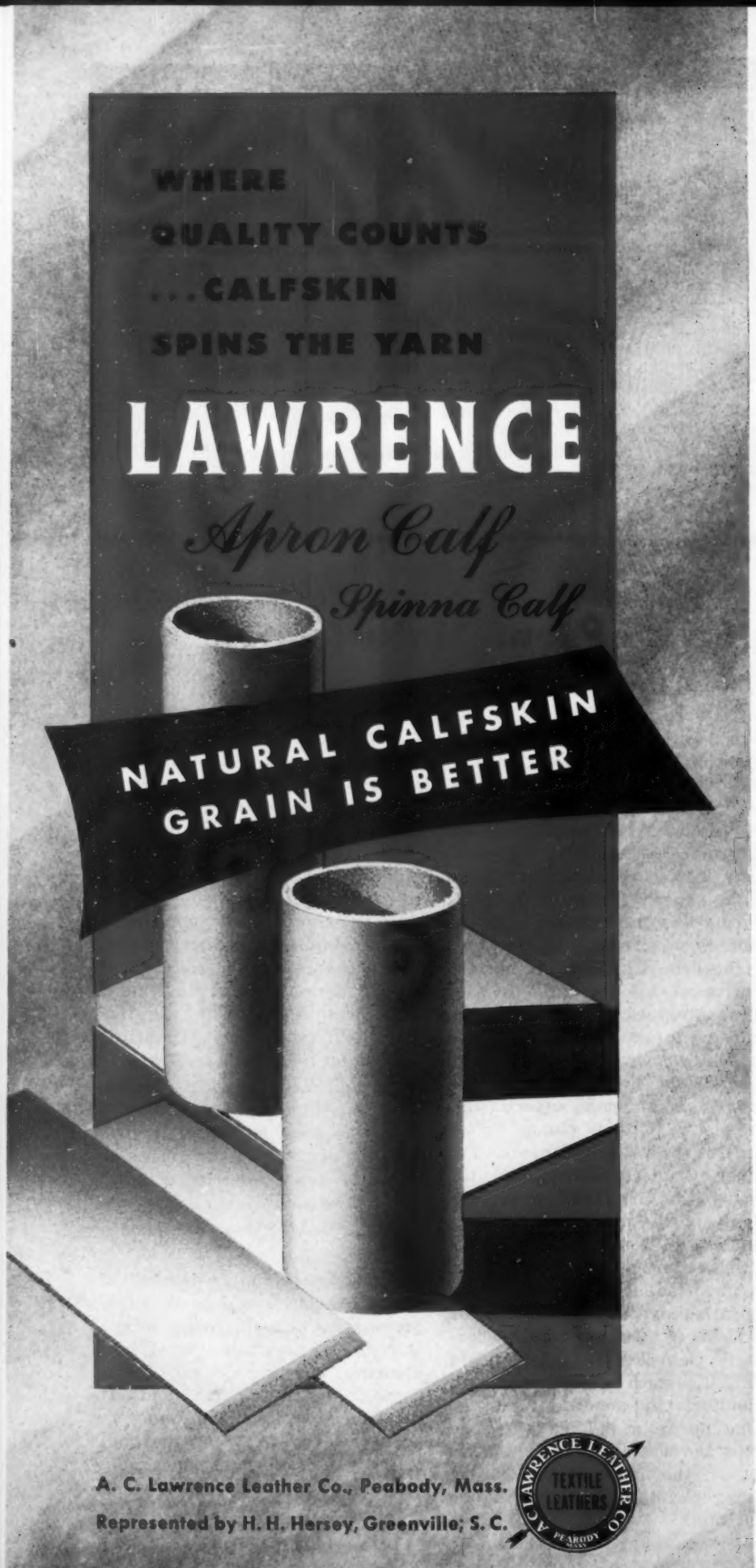
If there is any hesitancy in your mind, how's this for what the old-young superintendent knows about psychology. At an overseer's meeting he exhorted his men in the intricacies of handling labor. His reasoning went something like this: "You men know your machinery, you know what twist gear to put on, what draft gear to produce the correct draft, what twist gear to obtain the correct twist, and you know all the constants. I am wondering if you always know what gear to put on an operative to obtain maximum production and retain maximum loyalty?

"Today, men, our big problem is not machines, but human relations. We must find ways to analyze the operative's mind. That is, we must know what he is thinking and why."

How's that fellows, for modern thinking?

Just by accident we learned of a little incident which we think proves that the old-young superintendent practices what he preaches. As the afternoon shift came on, a drawing hand had left his frames, roving cans, etc., in pretty bad shape. When the next shift drawing boy saw it, he simply turned right around and walked out.

(*Continued on page* 215)



AN
EXECUTIVE VIEWS
THE NEWS IN TEXTILES

This department is prepared by a man who is closely identified with the textile industry.

Textile Mill Sociology

Dr. William Hays Simpson, professor of political science at Duke University, Durham, North Carolina, has recently completed a small volume entitled *Southern Textile Communities,* and it has just been our pleasure to complete the reading of this study. Dr. Simpson is not unknown in the textile field. Several years before the war he published *Life in Mill Communities* and also *The Small Loan Problem of the Carolinas.*

Life in Mill Communities was devoted mainly to South Carolina with little or no mention of industrial activities in other states. *The Small Loan Problem of the Carolinas* was a sort of expose of the loan shark evil and, although it did not deal specifically with textile people, Dr. Simpson's earlier study showed clearly the iniquities of a system under which all men who worked with their hands and who had to borrow money might suffer.

Southern Textile Communities, the book which has come from the press within the last several months, paints a picture of the social and economic aspects of life in the textile villages of the South. Few if any new conclusions are reached in this volume because nearly all of it has been said before. In this instance, however, numerous isolated facts are brought together under one cover and are made readily available for those who desire to learn the true story.

Published through the cooperation of the American Cotton Manufacturers Association, the book is based on a mill-by-mill survey and upon extensive travels by the author. Travelling by automobile, Dr. Simpson went into scores of mill communities in the principal textile states of the South. He indicates that he talked with mill president, with mill workers and with such other people in the communities as the educators, etc.

Detailed Analysis

Southern Textile Communities presents a rather complete analysis of the textile village, an institution which is

peculiar to the Southern industry. The following chapter titles will give an indication of the scope of this survey:

Historical Background
The Village
Education
The Church
Health
Community Life
Company Stores
Credit
Sale of Mill Villages

From the historical standpoint, Dr. Simpson points out that William Gregg is credited with establishing at Graniteville, South Carolina, the first mill village in the South. He further reports that in 1849, shortly after its construction, this village covered some 150 acres, contained about 100 homes, and included churches, hotels, stores, and an "academy."

Southern Textile Communities brings out the part the industry has played in the development of educational facilities and emphasizes the interest of mill executives in eradicating illiteracy and in developing the educational facilities of their communities. The author quotes William Gregg as deploring the fact that in South Carolina approximately 20 per cent of the white population could neither read nor write. Gregg had his own system of compulsory education, requiring the attendance of all children between the ages of six and twelve. It is said that he sometimes acted personally as a truant officer and levied fines of five cents a day for unauthorized absences.

In making his survey, Dr. Simpson found that many Southern mills provide doctors and nurses for their employees. He discovered that in nearly all plants first aid equipment is kept on all floors of the mills. He reports numerous clinics within textile villages supported by the company and that these provide such facilities as x-ray tests, dental work, etc.

The trend away from company stores is illustrated by figures the author quotes. He shows that a survey made in 1909 indicated that of the 152 mills reporting, 57 operated company stores. In the current survey, however, he found that of the 125 reporting mills only 15 operated stores. He also presents some interesting comparisons between prices charged in mill stores and those charged in uptown chain stores.

Some Will Disagree

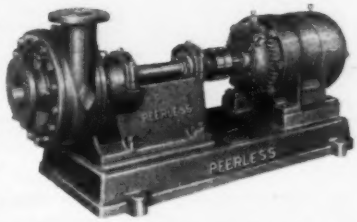
This will give you some idea of the material covered in this volume. Mill men reading the book will not agree with all of the conclusions reached by the author, although they will find most of them acceptable. The author notes in his preface, however, that he has enjoyed absolute freedom in the development of the study and thus it can be assumed that there would naturally be disagreement concerning some of the points he discusses.

For example, the author mentions the fact that some mills make loans to employees either direct from the mill office or in the form of advances from the company stores. He concludes that this is a worthwhile activity since it keeps the employees out of the hands of the loan shark.

There will be disagreement with this conclusion since some mill men will contend that the mill's primary function is the manufacture of yarn and cloth and that banking business should be left to financial institutions. Nearly all will agree that the loan shark is not a proper individual from whom to borrow. But they will

TYPE C PEERLESS *Centrifugal* PUMPS

FOR PROCESS SERVICES



Type C

TYPE C ENCLOSED IMPELLER

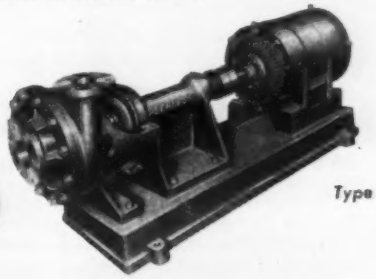
The Type C Peerless pump is a general purpose pump with an enclosed impeller designed to handle clear liquids in process services which can be of corrosive nature. It employs a single-stage, single-end suction design, with a horizontal shaft and vertically split case. Type C provides a range of capacities from 10 to 1200 g.p.m., against heads up to 231 feet and a maximum working pressure of 150 lbs. Bearings are adaptable to all types of drive.

TYPE CO OPEN IMPELLER

The Type CO Peerless pump is similar in design and construction to the Type C above and has the same application. However, it utilizes an open impeller to permit pumping of fluids up to 750° F with solids in suspension, brines, sludges and the like. Type CO handles capacities from 10 to 1200 g.p.m. against heads to 231 feet and a maximum working capacity of 150 lbs. Adaptable to all forms of drive. Both of the above pumps are described in Bulletin 810.

TYPE ACO FOR ACIDS AND CAUSTICS

The Type ACO Peerless pump is a modification of the Type CO above, especially designed to handle caustics and acids. Both "wetted" end and drip box are built of corrosion-resistant material. Handles fluids up to 800 g.p.m. against heads to 231 feet and has a maximum working pressure of 150 lbs. Fluid temperatures should not exceed 300° F. Described in Bulletin D-2400.


Type ACO

PEERLESS PUMP

PEERLESS PUMP DIVISION

FOOD MACHINERY AND CHEMICAL CORPORATION
FACTORIES: INDIANAPOLIS, INDIANA; LOS ANGELES 31, CALIF.
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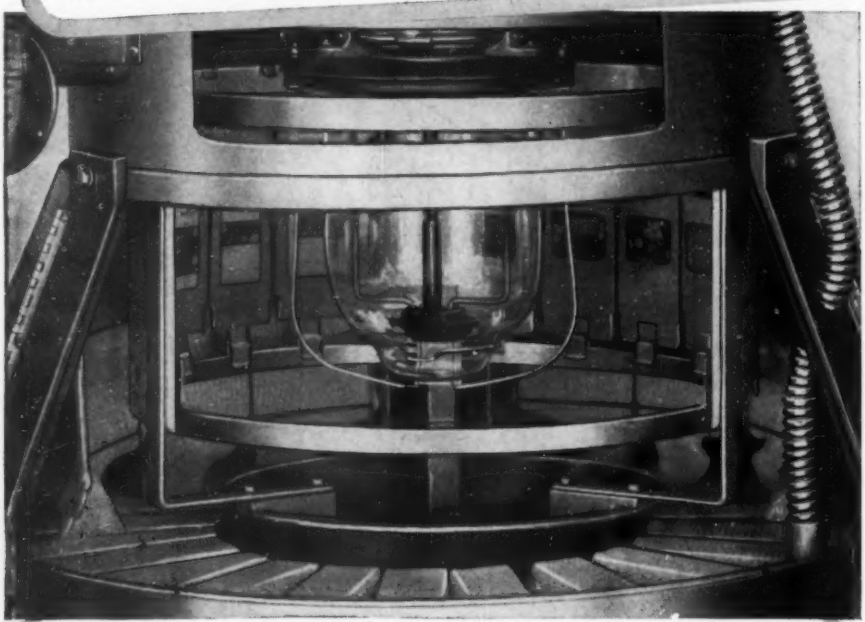
ATLAS FADE-OMETERS

Now have an improved method of specimen suspension assuring a more equal distribution of radiant energy for all samples.

Available for installation on all Model FDA and FDA-R Fade-Ometers now in use.



A lower ring engaging the new modified specimen holders supports the specimens during exposure in such a way as to assure a more equal distribution of energy for all samples.

Developed at the request of and in cooperation with the A.A.T.C.C. Committee on Fastness to Light the new holders and lower ring prevent discrepancies in test results caused by unequal distances from the specimen to the light source resulting from improper alignment of the holders.

This new method of suspension improves accuracy of test results since it materially reduces the possibility of deviation of the specimens from the vertical due to the human element or for mechanical reasons.

The lower ring can be installed on all Model FDA and FDA-R Fade-Ometers now in operation, adapting them for use with the new type specimen holders. In addition to the holders finished in baked-on gray enamel we now are also able to supply at slight additional cost the new modified specimen holders fabricated from a dull finish stainless steel.

Write for complete information on this new improved method of specimen suspension for your old machines.

ATLAS ELECTRIC DEVICES CO.

361 W. Superior Street, Chicago 10, Illinois

The manufacture and sale of the National Accelerated Weathering Unit Model X1A have been assumed by the Atlas Electric Devices Co. Present users of this equipment can secure supplies, repair parts and service from Atlas.

SALES REPRESENTATIVES IN PRINCIPAL CITIES ALL OVER THE WORLD

FADE-OMETERS • WEATHER-OMETERS • LAUNDER-OMETERS

not as readily admit that that fact should require a textile mill to go into the business of lending money.

For many years the sale of mill houses has been a popular subject for discussion. Dr. Simpson interviewed a number of mill executives who had sold villages, and he states that without exception each of them said that he believed the sale to have been favorable both to the mill and to its employees. We do not question Dr. Simpson's accuracy but we believe that if it had been possible for him to interview all of the executives who had sold villages and not just a portion of them he would have found some disagreement as to the success or failure of the venture.

This is a problem which cannot be easily solved because in these times of scarce housing no one has as yet been able to answer satisfactorily the question of where new employees will live if the employees they replace have sold their houses to still other people who may work in lumber mills or retail stores.

Nevertheless, Dr. Simpson's study presents concrete facts which are worthy of earnest consideration. It is apparent that he has spent a great deal of time in visiting personally many of the mills located in the southern states. He has written a sociological study of considerable importance and one which will be a source book for many years to come.

The Public Should Know

Southern Textile Communities will bring few revelations to those connected with the industry. It will, however, serve as an eye-opener to many people who have always thought of the textile industry in terms of barefoot children standing on boxes to tend the looms, of coal piled high in unused bathtubs, and of houses built on stilts beside the rushing creeks of the Piedmont.

Those of us who are close to the industry know the true story, but hundreds of thousands of other people see only the sad, distorted picture drawn by those who have a purpose in telling it that way.

As we have indicated before in this column, it is tremendously important that the public know what the mills are doing and how they are doing it. *Southern Textile Communities* tells this story. It is an important study and should be read by all thoughtful students who desire information regarding this region or the industry which has done so much to develop all of its institutions.

PERSONAL NOTES

ABOUT MEN YOU KNOW

Guy G. Cromer, former executive vice-president of Textron Southern, Inc., has been appointed vice-president for manufacturing of Textron, Inc., and its subsidiaries.

J. R. Bryant is now superintendent of the Virginia Mfg. Co., Whitesburg, Ga.

Rowan Cotton Mills, Salisbury, N. C., have elected **Henry Lineberger** as president suceeding his father, the late **A. C. Lineberger. John Robert Crawford,** former assistant treasurer, was elevated to the vice-presidency; and **Camden Blades** was elected to the board.

Colonial Mills, New York, N. Y., has announced that **George Groh** has retired from their concern, and that his future plans are not known.

Donald K. Woodward, former vice-president of Textron, Inc., has joined the executive staff of American Thread Co., New York, N. Y., and will be concerned with the mill operating division.

Robert W. West, former president of Esmond Mills, Inc., and who has also resigned as president of Wilkes Barre (Pa.) Lace Mfg. Co., has accepted the appointment as deputy to the assistant secretary of the Army, **T. S. Voorhees.**

Paul Knitting Mills, Pulaski, Va., have re-elected **Walter Brockmeyer** as president.

George E. Ward, formerly in charge of export sales, has been appointed chief of the Textile Section of the Export Branch of the Joint Export-Import Agency, Frankfurt, Germany. He succeeds **Howart Veit.**

H. A. Sayles, former manager of the Barre Wool Combing Co., South Barre, Mass., has succeeded **P. L. Doonan,** resigned, as superintendent of Cedartown (Ga.) Textiles, Inc.

Francis W. White, former assistant resident manager of Wood Worsted Mills, Lawrence, Mass., has been elected resident manager, succeeding **Col. Vere Painter,** resigned.

Erwin Plant No. 8 in Stonewall, Miss., has reported that **Edwin M. Bost,** former assistant superintendent of Mills No. 2 and 5, is the new superintendent.

C. Callaway, Jr., treasurer of Crystal Springs Bleachery, Chickamauga, Ga., has been elected president of the Chattanooga Control of the Controllers Institute of America. The new treasurer of the Boston Control is **Edward C. Hunt** of the West Point (Ga.) Mfg. Co. **Ernest R. Dayton,** comptroller of the Russell Mfg. Co., Middletown, Conn., has been named a director of the Hartford Control.

Mr. Callaway

Julius Kayser & Co., New York, N. Y., has announced the appointments of **George V. P. Marks** and **John Mueller** as vice-presidents. Mr. Marks is director of purchases and manager of fabric sales, assistant to the president and chairman of the president's advisory council of junior executives. Mr. Mueller is vice-president and general manager of Nazareth Mills, Inc., and general superintendent of Kayser's manufacturing plants in the United States.

James Greenlaw, former overseer of spinning at the Pittsfield (N. H.) Mills of Exeter Manufacturing Co., is now superintendent of the newly-formed Wright Spinning Co., Westbrook, Me. This concern is a subsidiary of the Lincolnfield Mills of Lincoln, Me., blanket manufacturers.

Michael Labun, formerly with the now defunct Madison (Me.) Woolen Co., has become overseer of carding at Parks & Barstow, Inc., Dexter, Me.

Richard Myers, formerly with Leicester-Leftex Hosiery Mills, New York City, has been appointed superintendent of the recently formed branch plant of the House of Byer, Inc., Laconia, N. H., whose main plant is in Cambridge, Mass.

John Douphinett, formerly a fixer

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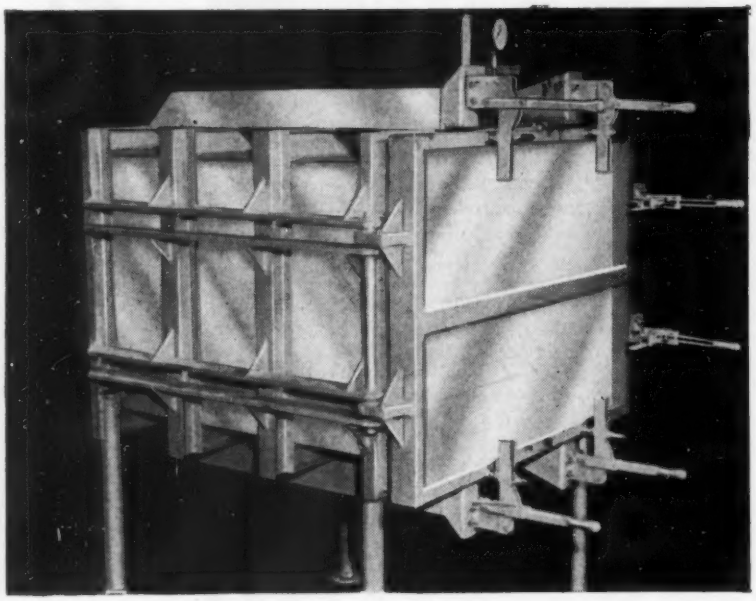
STODGHILL and COMPANY
ATLANTA GEORGIA

"The Size That Satisfies"
SUPERTIAL

Stainless Steel

MEANS GREATER SAVINGS



If it's a pressure chamber (as illustrated), tanks, vats or the many metal fabrications used in your plant . . . *Stainless Steel will mean greater savings.* Being non-corrosive, Stainless Steel eliminates the possibility of wet materials becoming contaminated. Colors remain true in successive runs. Lower upkeep, fewer repairs and rejections mean greater savings . . . so be sure to specify Stainless Steel.

Engineering facilities geared to industry's needs, for the fabrication of both stainless and carbon steel, are available to you. Truitt . . . *one of the South's most important fabricators of steel,* will gladly figure your job without cost or obligation.

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Fabricators of Solid Stainless Steel and Stainless-Clad Tanks • Dyeing Vats • Washing Tanks • Steam Drums • Storage Tanks for Acids and Alkalis • Mechanical Agitators • Separators • Stainless Steel Trucks • And Many Other Stainless Steel Products.

at Marum Hosiery Mills, Lawrence, Mass., has been given night foreman duties at the Cormier Hosiery Mills, Laconia, N. H.

A. J. Nisbet, for the past 21 years with the rayon division of Du Pont, has been elected president of Triangle Finishing Co., Johnston, New York. He succeeds **Richard Evans, II,** who has resigned.

Obituaries

A. W. Rydstrom, 64, senior vice-president and a director of Cone Export & Commission Co., Inc., died August 27 at Grace-New Haven (Conn.) Community Hospital following a heart attack which occurred six days previously.

Karl Baberadt, 69, manager of the Wyoming Textile Co., passed away at his home in Wilkes-Barre, Pa., after a short illness.

John K. Whitaker, president of Neuss Hesslein & Co., Inc., and Hesslein & Co., Inc., died suddenly August 25 at his home in Bronxville, N. Y., at the age of 51. He was stricken with a heart attack.

John Q. Gant, former vice-president and treasurer of Jewell Cotton Mills, and a director of the Glenn-Raven Hosiery Mills of North Carolina, passed away recently at a hospital in Augusta, Ga.

William Portner, 59, retired partner in Franklin Sweater Mills, Philadelphia, Pa., died recently at his summer home in Margate City, N. J. Mr. Portner was also a past vice-president of the Knitted Outerwear Manufacturers Association.

John L. King, machinery designer and associated with the Atlanta (Ga.) Machine Works, passed away August 10 in Anniston, Ala., as the result of an automobile wreck.

August G. Hafner, 65, founder, chairman of the board and president of Hafner Associates, Inc., Long Island City, N. Y., passed away suddenly August 21 following a brief illness.

Walter A. Conklin, 65, general manager of Pentagon Hosiery Mills, Inc., and secretary of Keystone Hosiery Manufacturers, Inc., died recently in the Stroudsburg (Pa.) General Hospital. He suffered a heart attack while on vacation.

Harry Friedman, 42, head of Sir Harfrey Hosiery Co., Philadelphia, Pa., passed away recently following a heart attack.

NEWS in BRIEF

Industry's Safety Rating Improves. Textile manufacturing has moved up from 14th to 8th position in the National Safety Council's latest listing of safety ratings for the country's 40 major industries. Figures just released by the statistical division of the Council reveal that in 1947 the textile industry had only 8.83 disabling injuries per one million man-hours compared with an average of 13.26 for all industries. In 1946, the Council placed the textile industry in 14th position in its listing, with 11.44 disabling injuries per one million working hours aganst an all-industries average of 14.16. Considering the severity of industrial accidents—injuries which result in time lost from jobs—the Council's compilation disclosed a rate of 1.23 for all industry and .54 as the textile industry's average, compared respectively with 1.28 and .78 for 1946.

1949 STA Convention. Mayview Manor in Blowing Rock, N. C., will be the scene of the 1949 convention of the Southern Textile Association. June 16-18 are the dates. Members and associate members are requested to note these dates on their calendar of coming events.

Rayon Definition. The American Society for Testing Materials recently approved the report of sub-Committee D-13, which recommended changes in the definition of the term "rayon" and the adoption of a new generic term "estron." Suggested and ASTM approved definitions are:

"Rayon — a generic term for man-made fibers . . . composed of regenerated cellulose with or without lesser amounts of non-fiber forming materials."

"Rayon, modified—rayon composed principally of regenerated cellulose, and containing amounts of non-regenerated cellulose fiber forming material."

"Estron — a generic term for

"Don't get behind the 8-ball" is the recently adopted slogan for the safety program at Erwin Cotton Mills at Durham, N. C. Above, Glenn Penland (right), safety director at the mills, and Henry Calvert, editor of plant publications, discuss a new creation—the eight ball. The eight ball remains in possession of the department having the last lost-time accident. Another feature of the program at Erwin is that awards are made for good safety records.

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EXCELLENT FOR
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Detachable Textile Counting Plate for use with 5 power models quickly gives 1", ½", ¼", and ⅛" measurements.

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★ Years of dependable, economical operation are built into every Shepard Niles electric Hoist. If investigation shows you need an electric hoist instead of an overhead traveling crane, the Shepard Niles engineer will give you unbiased recommendations.
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465 SCHUYLER AVENUE • MONTOUR FALLS, N. Y.

man-made fibers . . . composed of one or more esters of cellulose with or without lesser amounts of non-fiber forming materials."

ASTM's definitions are at variance with the Federal Trade Commission's definition of "rayon," under the Fair Trade Practice Rules of 1937. FTC calls anything rayon which is a textile fiber or yarn produced chemically from cellulose or with a cellulose base; and for thread, strands, or fabric made of the material, whether such fibers or yarns are made by the viscose, acetate, cuprammonium, or other process.

An extensive advertising campaign is now under way to acquaint the public and customers with the ASTM adopted term, with the further suggestion that "doubtless the FTC would welcome considered opinion as to the need for separate and distinct names for the two major types of man-made textile fibers."

Economic Consequences of Guaranteed Annual Wage. A 44-page report prepared for a National Planning Association joint subcommittee on the guaranteed annual wage and published in the NPA planning pamphlet series as an "Individual Report," is concerned primarily with the economic consequences of the guaranteed annual wage. "In the steadier sectors of the industry," the authors state, "the limited experience to date indicates that the guaranteed annual wage has real possibilities, and deserves careful consideration by top management. However, a company which has experienced, or expects to experience, wide fluctuations must limit the plan in many ways. Without such limitations, the business firm risks destruction of itself as a job-making machine." The pamphlet is available from the NPA.

Guide Aids in Mobilization Planning. In order to help industrial management plan now for mobilization in the event of war, a 46-page booklet was recently issued by the Munitions Board. This book, "A Guide for Joint Industry—Military Procurement Planning," is divided into six sections as follows: (1) Meaning of Industrial

Future Events

— 1948 —

SUN	MON	TUE	WED	THU	FRI	SAT
					1	2
3	4	5	6			
10	11	12				

Oct. 4-9—15th Southern Textile Exposition, Textile Hall, Greenville, S. C.

Oct. 14-15—Annual party and golf tournament, Chattanooga Yarn Association, Chattanooga Golf and Country Club, Chattanooga, Tenn.

Oct. 14-15—Annual meeting of North Carolina Cotton Manufacturers Association, Carolina Hotel, Pinehurst, N. C.

Oct. 14-16 — Cotton Mechanization Conference, sponsored by National Cotton Council, Lubbock, Texas.

Oct. 16—Fall meeting of Textile Operating Executives of Georgia, Georgia Institute of Technology, Atlanta, Georgia.

Oct. 18-22—36th National Safety Congress and Exposition, sponsored by National Safety Council, Chicago, Ill.

Oct. 21-23—Carolina Industrial Editors Council meeting, Asheville, N. C.

Oct. 21-23 — Annual convention of American Association of Textile Chemists and Colorists, Sheraton Bon Air Hotel, Augusta, Georgia.

Oct. 30—Eastern Carolina Division, Southern Textile Association, Erwin Cotton Mills auditorium, Durham, N. C.

Nov. 6—South Carolina Division, Southern Textile Association, Clemson College School of Textiles, Clemson, S. C.

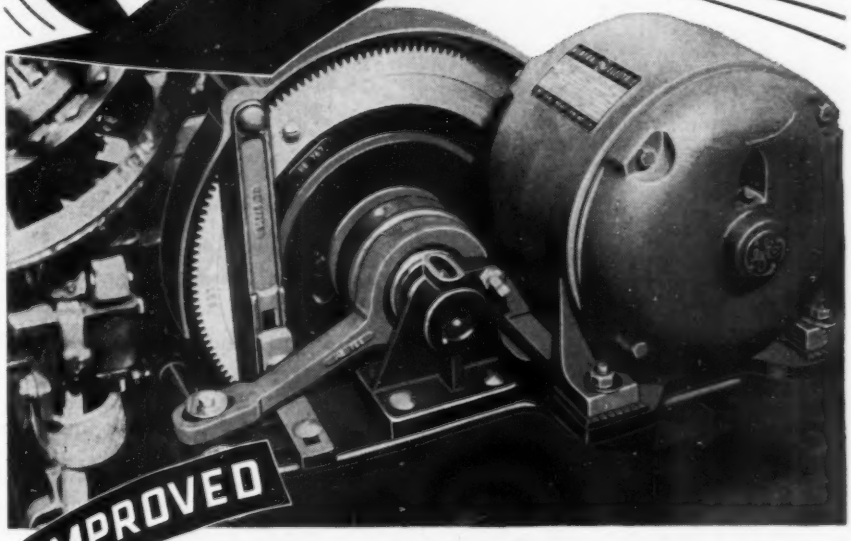
Nov. 11—Annual meeting of Cotton-Textile Institute, Plaza Hotel, New York, N. Y.

Dec. 4—Meeting of Southeastern Section, American Association of Textile Chemists and Colorists, Atlanta, Ga.

Mobilization; (2) Checklist for Mobilization of Industry; (3) Military Plans for Supply Sources; (4) Materials and Components Essential in War; (5) Who Plans for Emergency Procurement in the Armed Services?; (6) Who Buys Military Supplies Now? Copies may be obtained from the Munitions Board or the U. S. Government Printing Office, Washington 25, D. C., at 25 cents per copy.

Fashion Design Contest Sponsored by Dan River. A fashion design contest open to all persons engaged in designing work in the women's and children's textile apparel industry in the United States will be sponsored this year by Dan River Mills. An all-expense trip to Paris by air and four cash awards of $250 each will be offered as prizes for the five best original cotton creations to be selected by a board of judges from among all entries received.

individual DRIVING POWER



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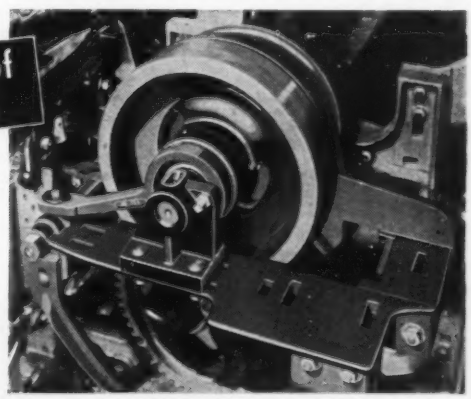
make weaving more profitable!

Flywheel with removable ring gear is precision machined, and balanced in Hunt Individual Motor Drive. Absorbs intermittent shock of pick and lay motions.

Direct attachment to loom side integrates motor with loom; eliminates crankshaft strain. Ball thrust bearings save power, reduce friction, keep gears and crank arms in alignment.

made by the makers of HUNT SPREADERS



HUNT BELT-DRIVEN FLYWHEEL DRIVES

Particularly efficient when installed with patented Hunt Spreaders on older model looms. Starts from any position. Replaces "tight-and-loose" pulley drives. Flywheel interchangeable with Hunt Individual motor drive.

Write us for help with problems of individual or belt-driven loom drives.

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Shopping for Cards?

No need to let production fall behind because your mill is in need of machinery. No need to spend valuable time scouring the market for textile machinery when all you need do is Contact Comer.

In every great textile center Comer has contacts which afford a ready market for your excess machinery and likewise, Comer knows where to get the machinery you need. As soon as the need arises—to buy or to sell—Contact Comer. Call, cable or write today.

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Containing single process pickers, 52 cards, long draft roving, 10,000 spindles of spinning, large ring twisters, high speed winding. To be sold as unit with or without real estate or as individual machines.

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WHAT THE TEXTILE MILLS ARE DOING

The **Dunean Mill** village houses in Greenville, S. C., have been made available for sale to the employees of the mill.

The **Dallas (Ga.) Mill** division of A. D. Juilliard & Co. has been jointly purchased by Otto M. Feil, Atlanta, Ga., industrial realtor, and Comer Machinery Co., Atlanta.

Textron of Puerto Rico, a subsidiary of Textron, Inc., has plans for the construction of five textile and apparel plants in Puerto Rico at a cost estimated at $2,300,000. The plants will weave rayon and nylon fabrics and also do tricot knitting.

Wamsutta Mills, New Bedford, Mass., has reported plans for the modernization of its plant which will require a large expenditure.

Burlington Mills Corp., has announced the installation of 100 new Draper looms for the production of decorative fabrics at the recently expanded Galax, Va., mill.

Cranston (R. I.) Print Works Co. has begun work on the construction of a $3,500,000 finishing plant at Fletcher, near Hendersonville, N. C.

The **Erwin Cotton Mills Co.,** Durham, N. C., has plans for the installation of an air conditioning system in the weave rooms of No. 1 Mill and in the carding and spinning rooms of No. 4 Mill.

Spinnerin Yarn Co., Inc., a subsidiary of an old established Swiss concern, has announced the completion of a building in the South Hackensack, N. J., section of the Bergen County Industrial Terminal for the processing of yarn for hand knitting and crocheting. Most of the machinery was designed and constructed in the Swiss company's machine shops.

The corporate name of **Chicopee Sales Corp.,** New York, N. Y., has been changed to Chicopee Mills, Inc.

The Opelika, Ala., division of **Pepperell Mfg. Co.** has plans maturing for a one-story building to be equipped as a cafeteria for employees.

Hicks & Otis Co., Norwalk, Conn.,

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BASKETS
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Cut Handling Damage
with safer equipment that lasts longer

Lower Costs
per operation.

Increase Efficiency
for all handling operations.

CANVAS DANDUX PRODUCTS

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Catalog 65-E

C. R. DANIELS, Inc.
DANIELS, MD.

textile printing, etc., has plans for the reconstruction of the plant recently damaged by fire. The loss was reported as close to $400,000.

Vat-Craft Corp., Wilmington, Del., has been chartered under state laws with a capital of $765,000, to manufacture textile fabrics.

Fulton Bag & Cotton Mills, Atlanta, Ga., has let general contract for an addition to be used for warehouse service. The cost is reported to be close to $80,000. They have also arranged for the purchase of plant and business of West Coast Bags, Inc., Los Angeles, Cal., to be operated as a branch plant.

Muscogee Mfg. Co., Columbus, Ga., towels, wash cloths, tickings, etc., has closed bids for the erection of a proposed addition to the warehouse, including improvements in the present structure.

Swift Mfg. Co., Columbus, Ga., cotton fabrics, covert cloth, etc., has approved plans and will begin work soon on two additions to the mill, consisting of a three-story building, to be equipped for expansion in the weaving department, and a one-story structure for extension in the ticker division. The cost is reported as close to $100,000, including equipment.

Douglas Mills, Inc., Douglasville, Ga., print cloths and sheetings, is completing an expansion and modernization program at the mill, and new looms, super draft slubbers and other equipment will be installed. The company has plans to place about 150 looms on the manufacture of broadcloth, a new line of output for the mill.

United Rayon Mills, Elberton, Ga., rayon fabrics, have asked bids for proposed additions to the mill designed to practically double the present floor space, and have provided for equipment for a large increase in capacity. An air conditioning system will be installed also.

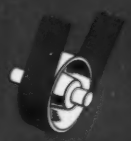
G. W. Taylor has completed the installation of equipment in a Kingston, Ga., building, secured under lease, for a thread mill.

Donald W. Barnes, former agent at Macon (Ga.) Textiles, Inc., is to head a project to construct a mill at or near Macon for the manufacture of worsted yarns, and will operate under a new processing system.

Brunsene Co., Cambridge, Mass., waterproof fabrics, has plans for the rebuilding of a plant in Watertown, Mass., recently damaged by fire. The loss was reported at close to $60,000,

LET'S PUT SOME LIGHT ON ANOTHER SCHIEREN QUALITY PRODUCT

FLAT LEATHER BELTING



Available in all sizes to meet all regular and special requirements of service. DUXBAK belting gives long service with minimum maintenance.

LEATHER PACKINGS

Cup, U, V, Flange and special shapes precision built for hydraulic and pneumatic service. Designed to meet specific service conditions such as high or low pressures, high temperatures, etc. Made from specially tanned hydraulic leather and built to fit your job.

Write for your free copy of Schieren Packings catalog and the new, 52 page handbook, "Design and Application of Mechanical Leather Packings."

LEATHER SPECIALTIES

All types, straps, pickers, check straps, aprons, discs, clutches, etc.

Write for complete information or price quotations on any of the above products.

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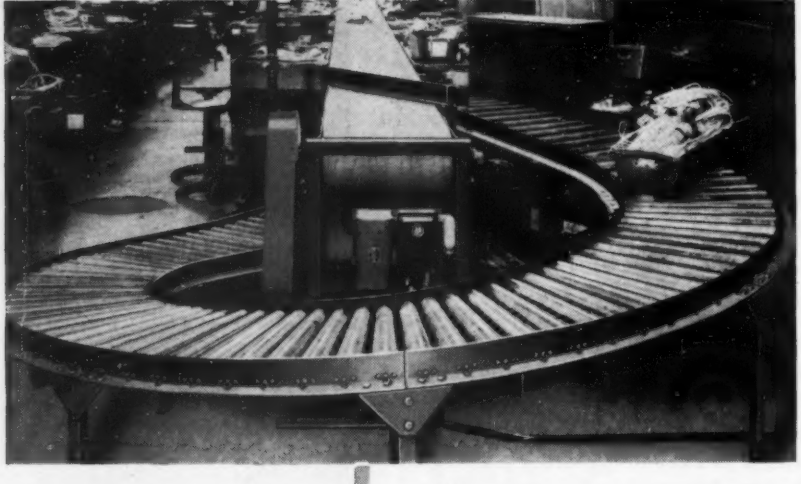
Looking for a way to get material from one part of your plant to another . . . you wouldn't consider the burro as the best answer. The real answer to fast, economical material handling is Standard Conveyors —a system, a section or a portable powered unit. Standard Conveyors are built for almost every material handling need, from mail to malleable iron castings. Look over your shop or warehouse, there's more than an even chance you can save time, money and labor with a Standard Conveyor. Standard Conveyor Company, General Offices: North St. Paul 9, Minn., Sales and Service in Principal Cities.



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Standard GRAVITY & POWER CONVEYORS

including equipment.

L. Lepoutre and A. Lepoutre, Jr., president and treasurer, respectively of LaFayette Worsted Spinning Co., Woonsocket, R. I., are organizing a company under the name of **A. L. Textiles, Inc.,** to operate a worsted spinning and weaving mill at Somersworth, N. H. Property has been acquired and it is proposed that the mill will be ready for service next fall.

Meadox Weaving Co., Inc., Waldwick, N. J., broad silks and upholstery fabrics, has leased space in the mill of Marcalus Mfg. Co., East Paterson, N. J., and will equip for a branch plant.

Scanlan Wool Co., New York, N. Y., wool pulling and processing, has arranged for the purchase of the former plant of American Hair & Felt Co., Newark, N. J., comprising a number of one-story buildings, and will occupy for a new factory. Improvements will be made and equipment installed soon.

Rocky Mount (N. C.) Rayon Mills, formerly Carolina Fabrics, Inc., has approved plans for a one-story addition, designed to double the present capacity. It will be modern, windowless and completely air conditioned.

Topsall Dyeing & Finishing Co., Inc., has been chartered with a capital of 200 shares of stock, no par value, to operate a dyeing and finishing mill in Pawtucket, R. I. Arnold W. Spencer, Saylesville, R. I., is the principal incorporator and representative.

Nice Yarn Co., Downingtown, Pa., carpet and rug yarns, has concluded negotiations for the purchase of the mill and equipment of Wakefield division of North Star Woolen Mills, Woonsocket, R. I. The buildings will be remodeled and improved, and equipped for a new branch mill. Weaving and finishing machinery will be removed and sold, and new equipment will be installed. A raw stock dyeing department will be installed also.

Woodside Mills, Inc., Greenville, S. C., print cloths, twills, etc., has let contract for a one-story addition to be used as a personnel building.

Newberry (S. C.) Textile Mills has work under way on an expansion and modernization program, including an additional building and the installation of new Draper looms and other equipment. The cost of the project is reported to be in excess of $1,000,000, and the line of production, it is understood, will be changed from sheeting to print cloths.

Employees and management of **Inman Mills,** Inman, S. C., fancy goods and sheetings, have received the Liberty Mutual Insurance Company Accident Prevention flag in recognition of an outstanding industrial safety record of nearly a million and a half man-hours of operation without a lost time accident.

Summary of Mill Smoking Policies

In response to a recent request for information concerning policies on smoking within mill areas, the Alabama Cotton Manufacturers Association received replies from sixty-eight of the mills in Alabama.

The summary below covers those sixty-eight mills, which have 1,720,692 spindles and 45,441 employees, and gives much information on present policies on the subject of smoking.

Without using language that would describe any particular mill, a number of comments are listed that will prove interesting to any who may have occasion to review policies on employee smoking.

SUMMARY

1. Do you permit smoking within the mill gate?				
YES	52 mills	1,240,974 spindles	30,273 employees	
NO	16 mills	479,718 spindles	15,168 employees	
2. Do you permit smoking in the office?				
YES	*68 mills	1,720,692 spindles	45,441 employees	
NO	None			
3 Do you permit smoking in mill toilets?				
YES	24 mills	743,256 spindles	19,048 employees	
NO	44 mills	977,436 spindles	26,393 employees	
4. Do you give a break during working hours for smoking?				
YES	11 mills	290,792 spindles	9,005 employees	
NO	57 mills	1,429,900 spindles	36,436 employees	
5. Do you provide any special smoking room or facilities for smoking, if smoking within the mill area is permitted?				
YES	36 mills	804,984 spindles	21,572 employees	
NO	32 mills	915,708 spindles	23,869 employees	
6. Do you have "No Smoking" notices posted within the mill area inside the gates?				
YES	47 mills	1,092,278 spindles	27,592 employees	
NO	21 mills	628,414 spindles	17,849 employees	
7. Have you been asked to revise your policy, in case smoking within the mill gates has been prohibited?				
YES	11 mills	289,920 spindles	7,910 employees	
NO	35 mills	853,148 spindles	22,308 employees	
NO REPLY	22 mills	577,624 spindles	15,223 employees	
TOTAL COVERAGE OF SMOKING SURVEY—				
	68 mills	1,720,692 spindles	45,441 employees	

*Includes two mills replying that smoking was permitted "Only in clerical offices."

Comments

"Smoking is allowed only in the places designated in notices posted in the mill and on the mill fence. Employees are allowed to smoke at the drink stand only."

"Smoking by boiler room and machine shop workers, in the boiler room, is allowed."

"We permit employees to go outside the mill gates to smoke, provided they do so in moderation; not more than twice in eight hours."

"We have smoking sheds but have been trying to eliminate them, as the privilege is being abused."

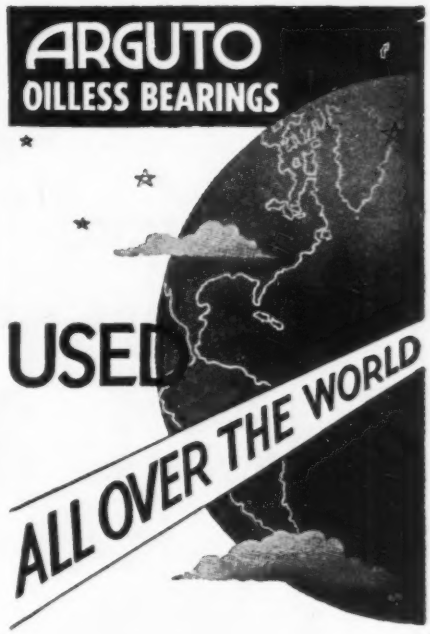
"Since we do not have a fence around the mill, employees merely step outside the mill door and smoke whenever they wish, providing their job is in shape for them to do so."

"We provide smoking rooms. We have fourteen rules to cover smoking. These are rigidly enforced."

"Employees may take a break during work hours for smoking, on their time and at their convenience."

"Smoking is provided for in the lunch room."

"All employees are permitted to take 15 to 20 minutes off during their eight hour shift to go to the lunch room, located in the mill, where they eat light lunches and are permitted to smoke."



..IN MANY DIFFERENT

APPLICATIONS

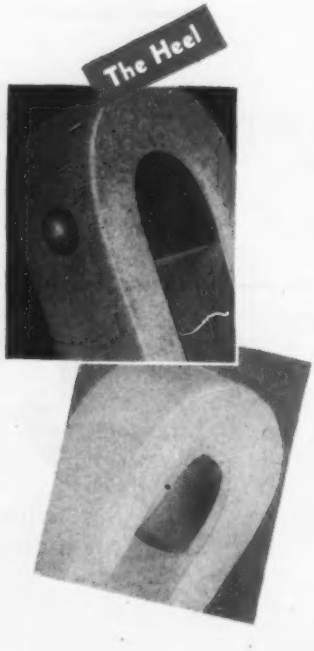
"OUTWEARS THE BEST BRONZE METAL"

20 years without a drink—

ARGUTO OILLESS BEARING CO.
WAYNE JUNCTION PHILADELPHIA

JACOBS

Reinforced "VERYBEST"
Lug Straps are Reinforced at
ALL 3 places!



Army Duck — in laminations — is built in at each of these three wear, strain, and stress points. The short "Verybest" Lug Strap is also reinforced at all three places, and is a fit working mate for the long Reinforced "Verybest" Lug Strap — very best for the weaving industry.

QUALITY MEANS EFFICIENCY
EFFICIENCY MEANS ECONOMY

E. H. JACOBS NORTHERN DIVISION
The Bullard Clark Company
DANIELSON, CONNECTICUT

Automatic Application of Emulsion on Wool

(*Continued from page* 91)

mixed with hot water. The water circulator is thermostatically controlled.

This method of heating prevents local overheating of the oil (with subsequent jelly formation) so often encountered when live steam is added to a mixture of oil and water.

The oil and water flow from the bottom of the tanks, through filters and needle valves, to the mixing chamber. Thorough mixing is accomplished in the chamber, which is of clear plastic, and the mixing operation can be observed at all times.

The flow of oil and water to the mixing chamber is controlled as previously described. There are three manometers, one for the orifice on the oil side and two for the water side. The two meters for the water side are required because the flow of water greatly exceeds that of the oil.

To prevent the mercury reading on the manometer from exceeding the capacity of the manometer, the orifice meters can be used alternately for low or high flow. The manometers have a capacity to read thirty inches of mercury. Traps are installed on the manometers to catch the mercury and return it to the manometers in case the operator exceeds the manometer capacity.

Thermometers and sight glasses are provided on the oil and water receivers.

The oil is filtered before it enters the oil receiver and again prior to entering the mixing chamber through the needle valve. All sludge and jelly are thereby removed. Duplex type filters are used for both oil and water.

System Altered for Varying Capacities. The description given covers that of the equipment and method of operation as engineered for a particular capacity requirement. Also no attempt is made to list detailed specifications of all equipment items.

Potential users of this system may have particular problems

QUALITY RICHMOND PRODUCTS

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RICHSPIN

THE OIL
FOR
WORSTED
AND
WOOL
SPINNING
NOW AVAILABLE

Emulsifies very easily and completely.

- Cuts static to a minimum
- Scours out completely
- Contains no mineral oil
- Does not turn rancid
- Does not oxidize
- Lubricates the fibre
- Penetrates through

RICHSPIN may be emulsified with any mild alkali. Borax does very well.

SUGGESTED FORMULA

(1) Using borax

Dissolve 1½ pounds borax in 4 gals. water and stir in 1 gal. Richspin.

(This is the formula of a prominent worsted spinner)

(2) Using soda ash

Dissolve 12 ounces soda ash in 4 gals. water and stir in 1 gal. Richspin.

(This is being used by a wool spinner)

Samples and More Detailed Information Upon Request

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617 Johnston Bldg., Charlotte, N. C.
Charlotte 2-1428

RICHMOND OIL, SOAP & CHEMICAL CO., Inc.
1041-43 FRANKFORD AVE.
PHILADELPHIA 25, PA.

which will require adjustments in engineering or manufacturing details. Tank capacities can be increased; steam, instead of electricity, can be used for heating the water; tanks can be fabricated under ASME code requirements, etc. Deviations from the equipment as shown and described must be considered separately.

How to Thaw Frozen Water Pipes

(*Continued from page* 129)

from the arc welding equipment which would normally be used for pipe-thawing purposes.

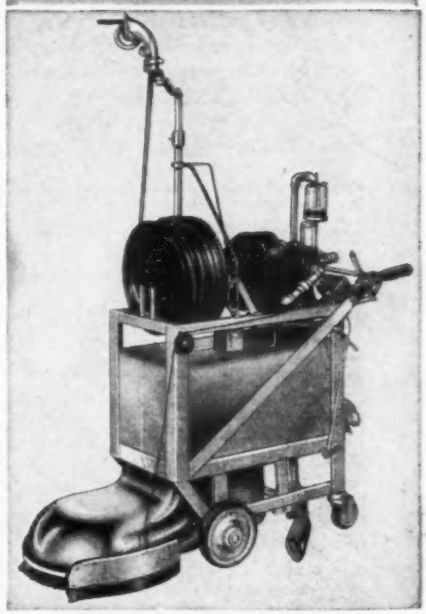
Where welding sets are to be operated at less than 80 per cent of their ampere rating, the operation can be continuous. That is, a 400-ampere d-c set can be operated continuously at 320 amperes without damage. Likewise, a 500-ampere transformer can be operated at 400 amperes continuously. The sets may be operated at their maximum output for intermittent periods up to 15 minutes if sufficient time is allowed for return to normal temperature.

When using arc welding equipment for thawing purposes, there are a number of precautions which must be observed. If a good, low-resistance joint is not obtained between the copper cable and water pipe, excessive heat will be generated at the connection. If the current is allowed to form an arc at this point, it may damage the pipe.

Care should be taken to select the correct amount of current where there is known to be lead in the service pipe, because lead pipes will stand less current than iron. The pipes should be disconnected from the building piping before the wiring so that the current has only one path in which to travel—through the section which is frozen. If this is not done, where other devices are grounded to the water pipes the ground wires may burn out and cause a fire, since the grounding connections will be raised above earth potential.

In using single-operator d-c sets,

SCRUBS and SQUEEGEES
FLOORS



LAWLOR 20-D

DOES BOTH JOBS

Only one operator is required to run this remarkable two-in-one machine. Clean water is fed from one tank upon the soaped floor, the 19" diameter revolving brush scrubs it quickly and thoroughly. Then a rubber squeegee mops up the dirty water which is vacuum pumped into a second tank.

JUST THE THING FOR LARGE AREAS

The Lawlor 20-D is only 22" wide and can be used in congested places around machines, counters and desks. Available for either AC or DC current.

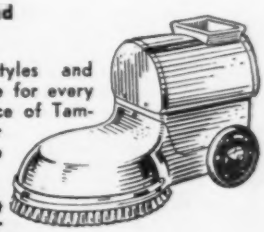
MOP WRINGERS

All steel with perforated rolls. Easy foot-lever operation. Made for one or two pails.

MOPPING TANKS

Heavy galvanized steel with welded seams. Two compartments, each with shut-off. Foot pressure wringers. 30 or 60-gallon capacity.

SCRUBBERS and POLISHERS



12 different styles and sizes, a right size for every need. Your choice of Tampico, Palmetto or Steel Wire brushes.

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166. OAKITE PLANT MAINTENANCE DIGEST—A 16-page manual describing materials and methods for handling 54 recurring maintenance cleaning and related tasks in factories and mills.—OAKITE PRODUCTS, INC., New York 6, N. Y.

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271. CARDING, SPINNING AND WEAVING LUBRICATION—Informative bulletin describing advantages of NON-FLUID OIL over ordinary lubricants for the lubrication of carding, spinning and weaving machinery.—NEW YORK AND NEW JERSEY LUBRICANT CO., New York, N. Y.

272. HOUGHTON LUBRICATION CHART — Attractive chart listing lubrication recommendations for all mill departments and various textile machines.—E. F. HOUGHTON AND CO., Philadelphia, Penna.

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433. **AUTOMATIC TRAVELING CLEANERS**—Recent issue of "Parks' Parables" on automatic cleaners for spinning, warping, twisting.—PARKS-CRAMER CO., Fitchburg, Mass., and Charolte, N. C.

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443. **COMPARATIVE YARN TABLE**—Chart giving woolen number (cut and run system) also cotton worsted and metric system; also, Comparative Rayon Denier Yarn Table.—VICTOR RING TRAVELER CO., Providence, R. I.

444. **SOL LUSTRE**—Attractive illustrated booklet describing Houghton's soluble softening and conditioning oils for textile fabrics and yarns.—E. F. HOUGHTON AND CO., Philadelphia, Penna.

445. **ROLLER BEARING SPINDLES**—Illustrated booklet showing various types of Marquette Roller Bearing Spindles. The unique full-floating footstep bearing is pictured in cut-away views, and its advantages are described.—THE MARQUETTE METAL PRODUCTS CO., Cleveland, Ohio.

446. **FOSTER BULLETIN A-95** — Describes the modern Foster Model 102 winder that eliminates ribbon wind. — FOSTER MACHINE CO., Westfield, Mass.

450. **IONOTRON STATIC ELIMINATOR**—A 4-page, illustrated catalog section describes a new static eliminator which operates without electric power or physical contact. There is no operating expense.—U. S. RADIUM CORP., New York 7, N. Y.

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453. **CHAPMAN STATIC NEUTRALIZER** — The "how" and "why" of this unit are covered in this bulletin, plus the factors affecting successful application to cotton cards, woolen cards, and cotton drawing frames.—CHAPMAN ELECTRIC NEUTRALIZER CO., Portland, Maine.

WEAVING, SLASHING . . .

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510. **THE ROMANCE OF PRAIRIE GOLD**—Attractive illustrated book which tells the story of corn and the uses of corn products in industry.—CORN PRODUCTS SALES CO., New York, N. Y.

512. **BRIGHT SPOT IN THE PRODUCTION PICTURE**—Folder on more loom speed through Hunt loom spreaders.—HUNT MACHINE WORKS, INC., Greenville, S. C.

513. **SEYCO PENETRANTS FOR YARN CONDITIONING**—Folder describing the scientifically formulated Seyco sizing. — SEYDEL-WOOLLEY & CO., Atlanta, Ga.

514. **SLASHER HOODS** — Pamphlet describing drip-proof slasher hoods for cotton or rayon slashers. Roof or sidewall exhaust.—WOLVERINE EQUIPMENT CO., Cambridge 42, Mass.

515. **TEXTILE COUNTERS**—Catalog No. 50 illustrating and describing complete line of Productimeter Loom Pick Counters; Hank Counters; Yardage, Electric and Predetermined Counters; Tachometers, etc. — DURANT MANUFACTURING CO., Milwaukee 1, Wisconsin.

516. **WEAVE ROOM ACCESSORIES**—Weave room accessories catalog and literature on new plastic, bronze bearing sheave, which solves a troublesome weave room problem.—EMMONS LOOM HARNESS COMPANY, Laurence, Mass.

517. **LOADING SYSTEM**—Bulletin 417, on pneumatic loading system for Saco-Lowell slasher size box squeeze rolls, contains installation photo, features, specifications, and prices.—THE FOXBORO COMPANY, Foxboro, Mass.

518. **NIAGARA TWIST-SETTER**—Folder describing the revolutionary Niagara Twist-Setter which has no moving parts. The yarn is sprayed from all sides to afford maximum uniformity.—SEYDEL-WOOLLEY & CO., Atlanta, Ga.

519. **WOODEN BEAM HEADS, WARPER BEAMS, AND WARPING MACHINERY FOR ALL FIBERS**—62-page illustrated booklet descriptive of and giving specifications for the Allen line of beam heads, warper beams, warping machinery, stop motions and cloth rolls.—ALLEN COMPANY, New Bedford, Mass.

520. **PNEUMATIC LOADING SYSTEM**—Bulletin 418 contains installation photo, features, specifications and prices for pneumatic loading system for Charles B. Johnson Machine Works slasher squeeze rolls.—THE FOXBORO COMPANY, Foxboro, Mass.

521. **STEEL WARP BEAMS**—20 page catalog No. 45 illustrating Standard and Special Purpose Warp Beams for the weaving industry, both broadloom and narrow fabrics. Also Textile Machinery Specialties.—MILAON MACHINE WORKS, Milton, Pa.

522. **STARCH STABILIZER** — Leaflet describing new material to prevent jelling and to improve the cold fluidity of starch dispersions.—R. T. VANDERBILT COMPANY, New York 17, N. Y.

524. **JOHNSON WARP SIZER**—12 page fully illustrated booklet, describing the 7 cylinder sizer with stretch indicator and finger-tip control of stretch. A point-by-point analysis. — CHARLES B. JOHNSON MACHINE WORKS, Paterson, N. J.

525. **GATES LOOM ACCESSORIES** — Catalogs MRG-418, MRG-421, MRG-422 describe the advantages of lug straps, harness straps and drop box pickers made from a remarkable new material called Tex-Hide. Catalog MRG-419 describes the advantages of a new "Tractive-Rib" take-up roll covering.—GATES RUBBER CO., Denver 17, Colorado.

527. **COTTON SLASHERS**—Photographs and detailed information are contained in this 16-page folder which describes the new WPF&M Slasher. Also included in the folder are descriptions of three types of creels and head ends and other advanced optional equipment.—WEST POINT FOUNDRY & MACHINE COMPANY, West Point, Ga.

528. **PARTS, CATALOGS FOR WPF&M SLASHERS, SIZE KETTLES AND PUMPS**—This 42-page illustrated catalog of parts contains exploded views and part numbers for quick identification.—WEST POINT FOUNDRY & MACHINE COMPANY, West Point, Ga.

DYEING, FINISHING, CLOTH ROOM . . .

602. **ALUMINUM IN THE CHEMICAL INDUSTRY**—Published by Aluminum Company of America. Seventy-eight pages. Text and illustrations covering adaptability of aluminum and aluminum alloys to chemical industry applications and characteristics governing recommended uses. — ALUMINUM COMPANY OF AMERICA, Pittsburgh, Pa.

610. **PROCTOR DRYING MACHINERY FOR THE TEXTILE INDUSTRY**—Illustrates descriptive catalog on all types of dryers for raw stock, warps, package dyed and automatic skein yarn. Also includes Preboarding and Automatic Boarding Machines for hosiery.—PROCTOR & SCHWARTZ, INC., Philadelphia, Pa.

611. **BRUSHING AND SHEARING MACHINES**—Illustrated literature on the new Hermas Brushing Machine for use light sheeting to heavy ducks; also on Hermas AV Shears.—HERMAS MACHINE CO., Hawthorne, N. J.

613. **RADIANT HEAT IN TEXTILE INDUSTRY**—New illustrated book on uses of radiant heat, data on fuel consumption, evaporation, etc.—RED-RAY MFG. CO., New York, N. Y.

614. **STRIPS IN ROLLS**—Form No. CF-642 illustrated folder showing over 25 slitters and roll winders for textile use.—CAMERON MACHINE CO., Brooklyn, New York.

616. **ENGINEERING PROPERTIES OF MONEL**—Technical Bulletin T-5, giving detailed information on strength and ductility, working properties, resistance to various types of corrosion and other data on Monel Metal. — INTERNATIONAL NICKEL CO., INC., New York, N. Y.

617. **AUTOMATIC CONTROL SYSTEM FOR CONTINUOUS BLEACHING**—Illustrated folder describing the new method of controlling the temperature, pressure, and liquid level in the continuous bleach operation.—TAYLOR INSTRUMENT COMPANIES, Rochester 1, N. Y.

619. **3 FOR 5**—Illustrated folder describing features of Blickman stainless steel Dyeboxes. — S. BLICKMAN, INC., Weehawken, New Jersey.

620. **DYE HOUSE VENTILATION**—Pamphlet describing stainless steel exhaust systems for piece dye kettles. Equipment for stock dye houses. Tempering supply air units and controls.—WOLVERINE EQUIPMENT CO., Cambridge 42, Mass.

621. **INFRA-RED RADIANT HEAT GENERATORS**—Illustrated bulletins on infra-red technology and applications throughout Textile pre-drying, drying, polymerizing, printing, and other heat-processing operations. — CARBOMATIC CORPORATION, New York, N. Y.

622. **FILT-R-STIL**—Attractive illustrated booklet describing the FILT-R-STIL method of chemically purifying water.—AMERICAN CYANAMID & CHEMICAL CORP., New York 20, N. Y.

623. **TENSION CONTROLS**—Form No. C. F. 449 illustrating various types of unwind stands for use in maintaining constant tension on web. Some equipped with photo-electric side register controls.—CAMERON MACHINE CO., Brooklyn 2, N. Y.

625. **BALL BEARING ROLLER TYPE SCRAY**—Circular No. 904 describing this scray which is for use in handling heavy and large size rolls of cloth. This is used either in finishing plants or in the cloth room of cotton mills.—BIRCH BROS., INC., Somerville, Mass.

626. **GUIDER AND GUIDING EQUIPMENT**—This booklet, entitled "Mount Hope Precision Guider and Guiding Equipment" describes this latest development in guiding equipment. The new guider, it is claimed, makes possible automatically controlling the lateral movement of cloth within closer limits than ever before possible.—MOUNT HOPE MACHINERY CO., Taunton, Mass.

629. **ELIMINATION OF SALT HANDLING AND WASTE**—Information about the Storage-Type Lixator.—INTERNATIONAL SALT CO., INC., Scranton, Pa.

630. **VAT DYEING OF WOOL**—Write for Calco-Technical Bulletin No. 797 outlining fundamental dyeing procedures, and explaining new advances in the technology of wool dyeing and finishing.—CALCO CHEMICAL DIVISION, AMERICAN CYANAMID CO., Bound Brook, N. J.

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631. THE LIXATE PROCESS—Fully illustrated booklet describing process for scientifically controlled brine operation. — INTERNATIONAL SALT CO., INC., Scranton, Pa.

633. PRINTING WITH ARIDYE PIGMENT COLORS—Bulletin P-1 describes preparation and application of pigmented water-in-oil emulsions for printing cotton, rayon, and other fabrics.—INTERCHEMICAL CORPORATION, TEXTILE COLORS DIVISION, Fair Lawn, N. J.

634. APPLICATION OF INTERCHEM ACETATE DYES—Bulletin IAD-1 describes procedures for dyeing and printing acetate rayon and nylon fabrics with new line of highly dispersed acetate dyes.—INTERCHEMICAL CORPORATION, TEXTILE COLORS DIVISION, Fair Lawn, N. J.

DYESTUFFS, CHEMICALS, SOAPS . . .

705. THEORETICAL AND APPLIED SILK-SOAKING—Attractive 28-page booklet outlining methods of silk-soaking and outlining investigation on the soaking, back-winding and degumming of silk.—HART PRODUCTS CORP., New York City.

713. LIOVATINE ED—Vat dyeing assistant increasing penetration and level dyeings with maximum yield of color.—SANDOZ CHEMICAL WORKS, New York City.

715. AQUAROL AND ARKANSAS PRODUCTS—Bulletins on Aquarol, water repellent finish with method of preparing bath; also on other Arkansas products for cotton, wool, silk and rayon, hosiery processing.—ARKANSAS CO., INC., Newark, N. J.

717. FINISH KB—Finishing compound designed as binder in combination with filling and stiffening compounds. Avoids dusting, insures draping qualities. — SANDOZ CHEMICAL WORKS, New York City.

738. LEVELENE—Booklet describing use of Levelene for leveling vat and direct colors. Also for stripping down vat colors.—AMERICAN ANILINE PRODUCTS, INC., New York, N. Y.

740. MONSANTO CHEMICALS—212 page illustrated buyers' guide for users of chemicals including useful tables, chemicals information.—MONSANTO CHEMICAL COMPANY, St. Louis, Mo.

749. LUPOMIN Q—Pamphlet outlines the application of the quaternary ammonium compound recommended for treating natural and synthetic fibres to give soft hand, lubrication, odorless finish, brighter shades, etc.—JACQUES WOLF & CO., Passaic, N. J.

752. CAUSTIC SODA BOOK—Elaborate 72-page text containing useful graphs, charts, diagrams and descriptive photographs designed for use of the technical men, buyers, executives, operating officials and engineers in textile mills.—COLUMBIA CHEMICAL DIVISION, PITTSBURGH PLATE GLASS CO., Pittsburgh 13, Pa.

754. THE ION EXCHANGE PRINCIPLE AND ITS APPLICATION—8-page illustrated folder illustrating the manner in which ionac and ion exchange materials are applicable to the textile field.—AMERICAN CYANAMID COMPANY, New York 20, New York.

755. LUPOMIN—Leaflet outlines the advantages of the cation active softener which is suitable for use on cotton, linen, silk, wool, synthetic fibres and mixed fabrics. A small percentage of lupomin gives a supple, smooth hand.—JACQUES WOLF & CO., Passaic, New Jersey.

758. CEGLIN—Attractive illustrated booklet describing the application of ceglin (cellulose ether) to many types of fabrics. — SYLVANIA DIVISION, AMERICAN VISCOSE CORP., New York 17, N. Y.

759. DRUCOMINE A—An effective cationic finishing agent with minimum effect upon white fabrics and upon the shade and light fastness of dyestuffs.—E. F. DREW & CO., INC., Boonton, N. J.

760. SYN-O-TROL CR—A highly concentrated, non-sulfonated cocoanut amide condensate. Recommended for all wet cleaning operations.—E. F. DREW & CO. INC., Boonton, N. J.

761. CHEMICALS FOR THE TEXTILE INDUSTRY—Attractive 30-page booklet describing uses and properties of a full line of textile chemicals.—ROHM & HAAS CO., Philadelphia, Pa.

762. ONYX TECHNICAL DATA SHEETS—Two new data sheets describing the use, advantages, and applications of Xyno Resins S 69 and Xyno Resin 362.—ONYX OIL & CHEMICAL COMPANY, Jersey City 2, N. J.

763. TRITON 770 FOR TEXTILE PROCESSING—12-page technical bulletin describing this efficient synthetic surface-active agent, with practical formulations for its application in all phases of textile wet processing.—ROHM & HAAS CO., Philadelphia, Pennsylvania.

764. GENERAL PRODUCTS LIST—20 page illustrated booklet providing complete information on Hooker chemicals and outlining the specialized Hooker processes.—HOOKER ELECTROCHEMICAL COMPANY, Niagara Falls, N. Y.

765. HOSIERY FINISHES AND FORMULAE—Attractive new booklet describes the Amalgamated line of hosiery finishes and giving numerous finishing formulae.—AMALGAMATED CHEMICAL CORPORATION, Philadelphia 34, Pa.

766. DU PONT PEROXIDE BLEACHING SYSTEMS—New book illustrating and describing this continuous peroxide bleach system. Layouts and other information included.—E. I. DU PONT DE NEMOURS & CO., ELECTROCHEMICAL DEPT., Wilmington, Dela.

767. STYMER—Booklet describing the totally new sizing and finishing agent for rayons, cottons and worsteds.—MONSANTO CHEMICAL CO., St. Louis, Mo.

768. TEXTILE CHEMICALS—Buying guide and reference book giving facts about Amalgamated Products, the fabrics on which they give best results, their proper application, and their chemical composition.—AMALGAMATED CHEMICAL CORP., Philadelphia 34, Pa.

769. SURFACE TENSION DEPRESSANT—The Booklet, "Mercerizing and Alkamerce—The Ideal Dry Mercerizing Penetrant," introduces a new product which can be used as a wetting agent, a dye leveling agent, a penetrant in package dyeing.—HART PRODUCTS CORP., New York, N. Y.

770. SPECIAL FINISHES FOR SERVICE, PROTECTION AND APPEARANCE—Contains tabulated list under following categories: Water-Repellent, Waterproof, Absorbent, Antiseptic, Flameproofing and Fireproofing, and Character Finishes, and Mesh preventives. Trade names of 140 finishes listed.—UNITED STATES TESTING CO. Hoboken, N. J.

771. "STARCH STABILIZER"— Folder on Vanesta, a product used for textile sizing and printing, discussing stabilization and the results obtained. —R. T. VANDERBILT CO., New York 17, N. Y.

772. "STANDARD SILICATE ALKALIES"—Booklet descriptive of silicate and silicated alkalies and their uses. These uses include for silk weighting, in peroxide bleaching, boiling off cotton, textile finishing, etc. — DIAMOND ALKALI COMPANY, Cleveland, Ohio.

773. TECHNICAL CHEMICAL DATA SHEETS—Complete set for dyeing, printing and finishing operations, showing major operations, performance and advantages.—ONYX OIL & CHEMICAL CO., Jersey City 2, N. J.

774. ROYCE TEXTILE CHEMICALS—This booklet briefly describes the leading Royce products for textile processing, printing, dyeing and finishing.—ROYCE CHEMICAL COMPANY, Carlton Hill, N. J.

KNITTING . . .

801. THE WILDMAN SINGLE-HEAD FULL-FASHIONED HOSIERY MACHINE—Literature on request from the WILDMAN MFG. CO., Full-Fashioned Division, Norristown, Pa.

805. THE TUBE-TEX FOR TUBULAR KNIT GOODS—Bulletin describing this modern machine which extracts, processes, dries, conditions and folds in one continuous operation, lowering costs, saving labor, power, space and waste.—H. W. BUTTERWORTH & SONS CO., Philadelphia, Pa.

809. TEXACO IN THE KNITTING INDUSTRY—Folder on knitting mill lubricants.—THE TEXAS CO., New York, N. Y.

811. CIRCULAR KNITTING MACHINES—Interesting, informative and well illustrated is this six-page folder, just released, which describes this company's small diameter circular knitting machine.—H. BRINTON COMPANY, Philadelphia 24, Pa.

813. THE NEW REINER HIGH SPEED TRICOT MACHINE—165" or 84" knitting widths. A richly illustrated catalog describing its many novel features of construction and performance. — ROBERT REINER, INC., Weehawken, N. J.

816. THE NEW REINER KAYLOOM—A combination Knitting Weaving Loom, featured in an illustrated catalog, showing filler attachment and other important points about this machine. — ROBERT REINER, INC., Weehawken, N. J.

817. AUTOMATIC SELECTIVE STRIPING MACHINE—Descriptive and illustrative folder, entitled "If It's Stripes, Consult Brinton," now available. Important mechanisms involved in this process are described.—H. BRINTON COMPANY, Philadelphia, Pennsylvania.

818. MILTON LIGHT METAL BEAMS FOR EVERY APPLICATION—Catalog 45-A describing Light Metal Tricot Beams made in Standard and Special sizes plus Special Purpose Light Metal Textile Equipment.—MILTON MACHINE WORKS, Milton, Pa.

822. HIGH SPEED JERSEY CIRCULAR MACHINE—Completely illustrated brochure showing features and highlights of this 100 yard per hour producer. Also available—New Cylinder Chart.—SUPREME KNITTING MACHINE CO., INC., 105 Johnson Ave., New York.

823. PILE FABRIC KNITTING MACHINE—New bulletin describes machine producing Pile Fabric at rate of 35 yds. per hour. Features making this machine a versatile producing unit. Illustrated. Ask for bulletin on Model ML Knitting Machine.—SUPREME KNITTING MACHINE CO., Brooklyn 6, N. Y.

827. 50% GREATER PRODUCTION claimed for the same floor space on new RPM Plain Jersey Machine; illustrated folder. — H. BRINTON CO., Philadelphia 24, Pa.

828. THE KIDDE KNITTER—Bulletin describing the newest in Raschel-type warp knitting machines and the higher production rates attained with it.—KIDDE MANUFACTURING CO., INC., Bloomfield, N. J.

SEWING MACHINES . . .

905. LOCKSTITCH INSTRUCTION BOOK—Form 904. Contains a wealth of information for owners, mechanics and operators. — WILCOX & GIBBS SEWING MACHINE CO., New York, N. Y.

906. LAP SEAM FELLING MACHINE—Bulletin No. 813 illustrating and describing outstanding features for sleeve setting on shirts and dresses.—WILCOX & GIBBS SEWING MACHINE CO., New York, New York.

915. THE NEW UNION SPECIAL LOCKSTITCH MACHINE—Information of the new model which cuts production time on sewing operations is contained in Bulletin No. 258.—UNION SPECIAL MACHINE CO., Chicago 10, Ill.

MATERIALS HANDLING . . .

1001. HOW TO DETERMINE WHERE OVERHEAD MATERIALS HANDLING EQUIPMENT CAN BE USED PROFITABLY — Profusely illustrated. Gives clear, concise understanding of materials handling. Helps you to determine where and what equipment might be used to speed production and increase profits. — CLEVELAND TRAMRAIL DIV., Wickliffe, Ohio.

1002. CATALOG NO. 22—An attractive illustrated catalog describing in detail the Shamrock shipping containers and the new canvas trucks for textile use.—MESSE, INC., Madison, Ind.

1003. CASTERS AND WHEELS—192 pages, describing casters and wheels suitable for all types of industrial applications. Every mechanical engineer and purchasing agent should have this.—DARNELL CORP., LTD., Long Beach, Calif.

1006. LANE CANVAS BASKETS—16 page illustrated booklet describing the Lane line of canvas baskets for textile use.—W. T. LANE & BROTHERS, Poughkeepsie, N. Y.

1007. OVERHEAD HANDLING EQUIPMENT — 56 pages of illustrations showing successful applications of monorail systems to meet every kind of handling problem. — THE AMERICAN MONORAIL CO., Cleveland, Ohio.

1020. CONVEYORS—16-page booklet, No. 62, entitled "Modern Time and Cost Savers," covers detailed information and illustrations on gravity rollers, wheel conveyors, supports, portable piling machines, belt conveyors, etc.—STANDARD CONVEYOR COMPANY, North St. Paul, Minn.

1022. CLEVELAND TRAMRAIL ENGINEERING AND APPLICATION DATA—Illustrated booklet with many photographs and sketches. Packed with valuable data. Covers briefly the various types of Cleveland Tramrail equipment. Delves into engineering details.—CLEVELAND TRAMRAIL DIV., Wickliffe, Ohio.

1025. CAB-OPERATED AND FLOOR-OPERATED ELECTRIC HOISTS—Bulletin No. 127 describing and illustrating electric hoists of various types and capacities. — SHEPARD NILES CRANE & HOIST CORP., Montour Falls, N. Y.

1026. HEVI-LIFT ELECTRIC HOISTS—Illustrated booklet describing the application of hoists ranging in capacity up to 15 tons in the textile industry. Gives suggested applications, detailed features and the 5-step variable speed full magnetic push-button control and seven types of mounting.—HARNISCHFEGER CORPORATION, Milwaukee 14, Wis.

1027. SINGLE BEAM CRANES—Bulletin No. 130 describing and illustrating the single beam type of overhead traveling cranes.—SHEPARD NILES CRANE AND HOIST CORP., Montour Falls, N. Y.

1028. TRAV-LIFT CRANES—Bulletin H13-1 describing P H overhead traveling crane service.—HARNISCHFEGER CORP., Milwaukee 14, Wis.

1030. C-D HOLLOW WARE—This 32-page catalog, HW44, profusely illustrated in color, shows Continental-Diamond's line of boxes, trucks, cans, barrels, baskets and trays. Complete description and specification is given on each item.—CONTINENTAL-DIAMOND FIBRE CO., Newark 38, N. J.

MISCELLANEOUS . . .

1103. UNBRAKO SCREWS — Illustrated 16-page booklet No. 370 gives data on Unbrako hollow set screws, with knurled point, self-locking features. Includes miscellaneous screw and locking nut data.—STANDARD PRESSED STEEL CO., Jenkintown, Pa.

1105. MILL NOTES—This is a mimeographed six-page pamphlet published every month containing information on new developments in process manufacturing and testing of interest to woolen and cotton mills. Mailed free to interested readers on request.—UNITED STATES TESTING CO., Hoboken, N. J.

1106. ILLUMINATED MAGNIFIER — A folder showing how Pike Flash-O-Lens is used in textile inspection; illustrated to show various models including the Pike Master Magnifier Set. — E. W. PIKE CO., Elizabeth, N. J.

1108. FABRICATION OF U. S. STAINLESS STEELS—136 page book covering use of stainless steel in textile equipment from cutting to cleaning. Includes corrosion-resistance table for chemicals.—CARNEGIE - ILLINOIS STEEL CORPORATION, Pittsburgh, Penn.

1109. PEERLESS FIRE PUMPS—Bulletin No. B-152 illustrates both horizontal and vertical pumps for every water handling service.—PEERLESS PUMP DIV., FOOD MACHINERY CORPORATION, Los Angeles 31, Calif.

1110. DENNISON MACHINE TOOLS — 24-page catalog available which lists and illustrates this manufacturer's complete line of machine tools. Prices are included.—DENNISON MACHINE TOOL CO., INC., Hickory, N. C.

1111. BRUSHES—A 20-page booklet is now available which describes and illustrates this manufacturer's line of brushes for the textile industry.—GASTONIA BRUSH COMPANY, Gastonia, N. C.

1112. "LIGHT DUTY-LOW AIR METALLIZING GUN—Bulletin 55 describes and illustrates the economical operating features of this new metallizing gun. Operates on only 10 cu. ft. of air per minute—sprays all metals.—METALLIZING ENGINEERING COMPANY, INC., Long Island City, N. Y.

1113. FLUORESCENT INSPECTION UNIT—Data available which describes this new fixture, which employs fluorescent lamps behind a diffusing panel of flashed opal glass, with details of construction, advantages and complete specifications. — SALEM MANUFACTURING CO., Salem, Mass.

TEXTILE INDUSTRIES, Grant Bldg., Atlanta, Ga.

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two points should be noted. The low load voltage will result in the possibility of unusually heavy currents on the lower taps. Since these taps are designed to carry the low currents which will be drawn at normal operating voltages, the result may be to overheat portions of the series field. This can be avoided by setting the units on the highest tap and lowest open-circuit voltage which will give the desired current.

In addition, the low load voltage should be considered in making an estimate of the current setting required. Since load voltages in the neighborhood of 5 or 6 volts will often be encountered, the output current on any setting will be as much as 1½ times the current which would be drawn by a welding arc. With transformers, however, the current drawn by the load will be very nearly that indicated on the nameplate.

As a final precaution, the resistance of the joints in the pipe should be determined. If the joints are insulated by rust or pipe dope, a spark may start a fire.

Old-Timer

(*Continued from page* 197)

Our old-young superintendent was passing as the overseer was placing another drawing hand on the set of frames Being informed that the first shift drawing hand had walked out, the superintendent could see the young lad, we guess he was about 19 years old, sitting out in front of the mill smoking a cigarette. And although they had some spare drawing hands, the superintendent sent for the young man. After a few minutes conversation, the drawing hand looked up the overseer to ask to be allowed to go back on his job.

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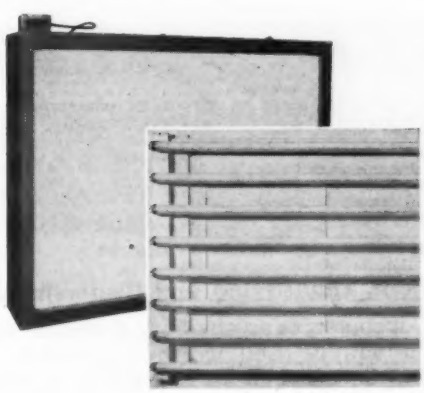

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- Leveling agent or retarder in acid dyeing of wool.
- Dispersing and solubilizing agent for acetate colors.
- Dispersing agent for pigments in organic vehicles.
- Assistant in chlorination of wool in shrink-proofing.
- Assistant to insure more even exhaustion of anionic or cationic finishes.

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NEW

PUBLICATIONS

OF TEXTILE INTEREST

H. Brinton Co., Kensington Ave. and M. St., Philadelphia 24, Pa. Pamphlet entitled "There's More Than Meets the Eye" which has as its subject the new Brinton Three-Position-Wheel knitting machine.

Continental-Diamond Fibre Co., Newark, Del., The latest Celoron Silent Gears catalog. Celoron is a high strength non-metallic, thermo-setting plastic.

Hercules Powder Co., Inc., Cellulose Products Dept., Wilmington 99, Del. Booklet entitled "Parlon, Hercules Chlorinated Rubber." One example of its textile application is a flame-resistant finish for canvas duck used as awnings for hotels and apartment houses.

E. F. Houghton & Co., 303 W. Lehigh Ave., Philadelphia 33, Pa. Pamphlet on the latest development in fuel oil additives. This is Houghto-Solv which completely removes sludge from fuel oil systems.

American Lumber & Treating Co., 332 So. Michigan Ave., Chicago, Ill. A supplementary report on service records for "Wolmanized Treated Lumber" by the technical department of this concern.

Joseph T. Ryerson & Son, Inc., Box 8000-A, Chicago 80, Ill. New engineering data bulletin which describes Rytense AA, a medium carbon manganese free cutting machinery steel.

Cochrane Corp., 17th St. & Allegheny Ave., Philadelphia 32, Pa. Publication No. 3250-1 on the new "CBA" high differential high pressure condensate return systems.

The Resinous Products & Chemical Co., 222 W. Washington Square, Philadelphia 5, Pa. Booklet entitled "The Resinous Reporter" which is devoted to ion exchange technology and information, and provides a description of how the process works, chart and tabular presentations of operational data, concise application information, a glossary of 85 terms and a complete bibliography.

The Felters Co., 210 South St., Boston 11, Mass. Pamphlet entitled "Why It Pays to Anchor Your Textile Machines with Unisorb." Tells what Unisorb is, how it simplifies machine installation, how it controls vibration

and noise, and how it reduces maintenance costs.

Calco Chemical Division, American Cyanamid Co., Bound Brook, N. J., Calco Technical Bulletin No. 802 is a paper entitled "Application and Properties of Vat Dyes," which is of particular interest to plant dyers.

Wage and Hour and Public Contracts Divisions, U. S. Department of Labor, Washington, D. C. Child-Labor Bulletin No. 101, which presents in simple form the child-labor provisions of the Fair Labor Standards Act—the Federal Wage and Hour Law .

The Foxboro Co., Foxboro, Mass. Bulletin 421 fully describing the Auto-Selector Controller, which controls selectivity, from either of two related variables—by positioning a single valve, damper, or other operator. It is available as a recorder or indicator.

The Texas Co., 135 East 42nd St., New York 17, N. Y. The latest issue of "Lubrication" having as its subject "High Speed Ball Bearing Lubrication."

American Viscose Corp., 350 Fifth Ave., New York 1, N. Y. Bulletin No. 2175 on Avisco crimped staple, which imparts a crisp, lively full hand to higher twist fabrics, such as gabardines.

Carbide and Carbon Chemicals Corp., 30 East 42nd St., New York 17, N. Y. The twelfth edition of "Synthetic Organic Chemicals" which presents in condensed from the properties, uses, and specifications of the products sold by this company.

The B. F. Goodrich Co., Akron, Ohio. Catalog Section 6100 on this company's rubber mats and matting for factories, offices, stores, institutions and homes. A detailed description of the construction of the various products and pictures of some typical applications are included.

Industrial Truck Division, Clark Equipment Co., Battle Creek, Mich. Condensed catalog featuring a tabulated summary of principal specifications of this company's fork-lift trucks, towing tractors and Tructractor models.

E. I. du Pont de Nemours & Co., Inc., Wilmington 98, Del. Booklet describing the physical and chemical properties, commercial grades, uses and applications of the polyvinyl alcohols, solid alcohols in powder form and their usefulness in industrial applications. The booklet is entitled "Elvanol" Polyvinyl Alcohols.

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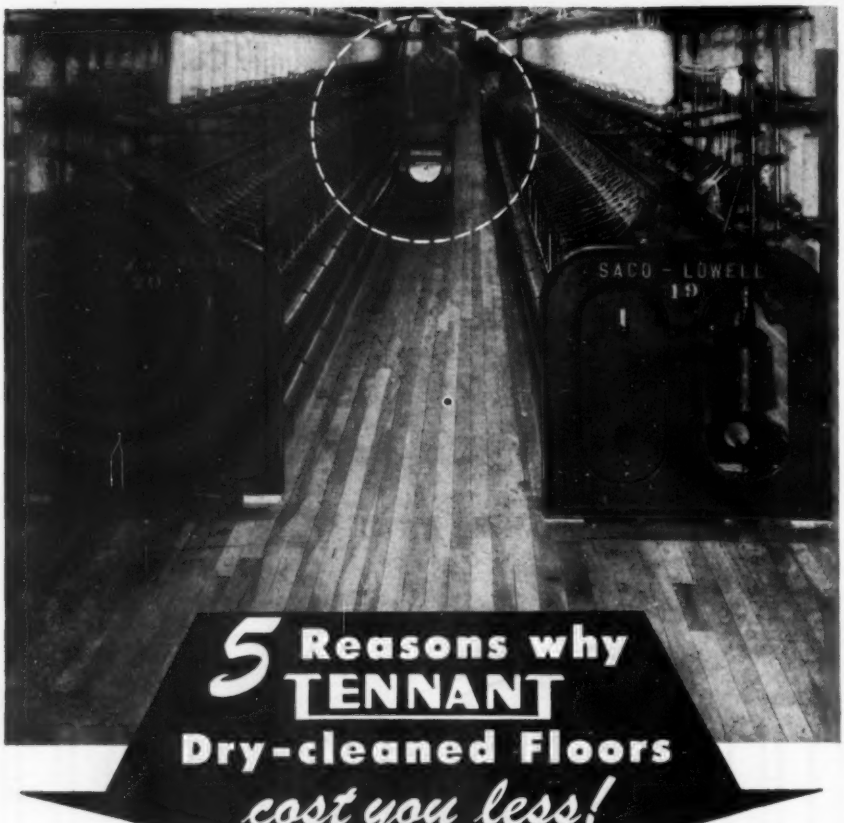


5 Reasons why TENNANT Dry-cleaned Floors cost you less!

Why have hundreds of mills like the one above—both large and small—tossed out floor scrubbing entirely? Why have they adopted the TENNANT System of "dry-cleaning"? And *why* does it give them better floors at less cost? *Here are reasons mill men give:*

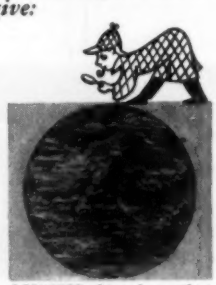
1. REQUIRES LESS MANHOURS. This is because you clean floors *faster* . . . in 1 fast operation with a TENNANT machine; picks up soilage automatically!

2. FLOORS STAY CLEAN LONGER. The TENNANT process provides a bright, smooth, *sealed* floor surface that doesn't easily catch dirt. Can be swept clean in a twinkling with a dry cotton mop.

3. PROLONGS LIFE OF FLOORS. Adds years to the "life expectancy" of floors, even in heavy traffic areas. Surface is specially hardened to make it tough and durable.

4. HELPS PREVENT ACCIDENTS. Eliminates scrubbing and costly hazards of wet, slippery floors. Provides dry, smooth surface—the kind recommended by safety engineers. Boosts morale.

5. PROTECTS FABRICS FROM SOILAGE. Gets rid of cloth-snagging splinters and makes it easy to keep floor spotlessly clean . . . ideal floor for quality textile production.



SCRUBBED floor (magnified 22 times) shows rough, fuzzy, dirt-catching surface.

DRY-CLEANED floor is smooth, bright and hard. Resists dirt penetration; cleans easily.

G. H. TENNANT CO.
2585 North Second Street
Minneapolis 11, Minnesota

Write Today!
Send for NEW 4-page illustrated bulletin on "How to Get Better Results in Textile Floor Maintenance."

The way to finer floors
TENNANT
Floor Maintenance System

Established 1870

OFFICES IN PRINCIPAL CITIES

SUPPLIERS' NEWS

WHAT THEY ARE DOING

American Aniline Products, Inc., has announced the following changes: James Harvey Orr, former salesman in the North Carolina area, has been promoted to southern manager: Carroll F. Martin, Jr., former demonstrator-technician in the company's Charlotte office, has joined the southern sales staff. Alexander S. Cooley has retired as the Charlotte, N. C., manager.

Mr. Martin

Mr. Orr

Sandoz Chemical Works, Inc., has established new offices and warehouse facilities in Chicago, Ill.

United Rayon Corporation has announced that it has changed its name to Associated Rayon Corporation, in an effort to avoid confusion with other similar company names.

Herbert H. Hatch, director of **Hatch Textile Research,** textile technologists in New York City, is celebrating his 40th Anniversary in the professional branch of the textile industry.

R. Frederick Walters, associated with the C. L. Stevens Co., Baltimore, Md., for the past 12 years, has become a partner in the industrial engineering firm of **Whittier & Dupille,** Atlanta, Ga., which will henceforth be known as Whittier, Walters & Dupille.

Robert F. Brown has succeeded C. W. Sampson as chemical sales manager of **Emery Industries, Inc.,** Cincinnati, Ohio. Mr. Sampson has been named to head the newly formed export department of the company. The appointment of Robert A. Behrman to the sales service department has also been made.

The Hubinger Company, Keokuk,

NEVEROIL BEARING COMPANY

49 Foundry Street
WAKEFIELD, MASSACHUSETTS

●

We manufacture two complete lines of self-lubricating bearings for the textile field. The first, and lower cost, are made of northern Rock Maple, fully impregnated with the best known lubricants. Our leading products in this field are:

1. Maple harness sheaves with impregnated maple bushings.
2. Parallel blocks
3. Whip roll bearings
4. Crank arms
5. Tape tension pulley bearings

Our second type of bearing is made from powdered metal, as follows:

1. Porous Metal self-lubricating bearings, in many different alloys and densities
2. Non-corrosion nickel-copper bearings for bleacheries and dye houses
3. Iron and steel machine parts
4. Gears

We are regular suppliers to most of the leading textile machine manufacturers.

●

SALES OFFICES

Chicago, Illinois — Detroit, Michigan
Cleveland, Ohio

Ralph Gossett, Greenville, S. C. — Belton C. Plowden, Griffin, Ga.

Iowa, in an effort to discontinue recent rumors, has announced that the company has not been sold or merged and no sale or merger is being contemplated. No offers relative to sale or merger are being considered.

The Durant Manufacturing Co., Milwaukee, Wis., has announced the opening of a new branch office in Boston, Mass., in order to serve the areas around Boston, Maine and New Hampshire.

Jenkins Metal Shops, Inc., Gastonia, N. C., has plans to expand their floor space to be used for offices and to provide much needed space for production.

R. M. Salisbury has been assigned the South Carolina and part of North Carolina territory representing

Mr. Salisbury

the **Textile Specialty Co.,** Greensboro, N. C. He succeeds the late Fred A. Decker.

John J. Bosshard, former technician, has been appointed assistant manager of the fabric development department of **American Viscose Corp.,** New York, N. Y.

The firm of **Ernest L. Frankl Associates,** New York, N. Y., has been selected as sole representative of S. A. Officini Meccanica S. Andrea Novara of Italy, worsted machinery manufacturers.

Minneapolis-Honeywell Regulator Co. has announced that Warren Jennings, after 35 years of service, will be relieved of some of his more exacting responsibilities but will continue as vice-president and his advice and counsel will be available to the entire eastern region. George D. Maves, former mountain regional manager with headquarters in Denver, Col., has been promoted to manager of the Boston branch. Ray R. West has been named manager of sales of Minneapolis-Honeywell products for industrial applications. He will be located at the **Brown Instrument Co.** plant in Philadelphia. Lloyd

SPINNERS!

HERE ARE YOUR FOUR FREEDOMS!

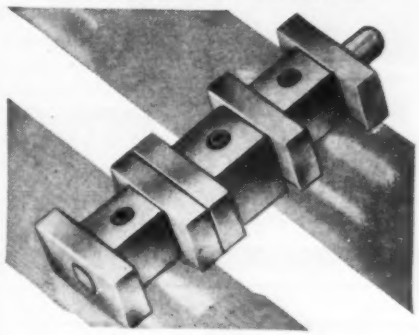
Freedom from

1. Oiling.
2. Heavy lint accumulation.
3. Frequent roll picking.
4. Expensive cap bar wear.

This NEW

CAP BAR

Provides Them



The new Dixon Cap Bar* provides long draft spinners with an oil-free, frictionless drafting unit that cuts spinning cost and increases yarn quality. It features replaceable SLIXONICE* nebs with four wearing surfaces instead of the usual one, and opens the way to new spinning accomplishments, especially when used with the new Dixon SLIXONICE Saddle.

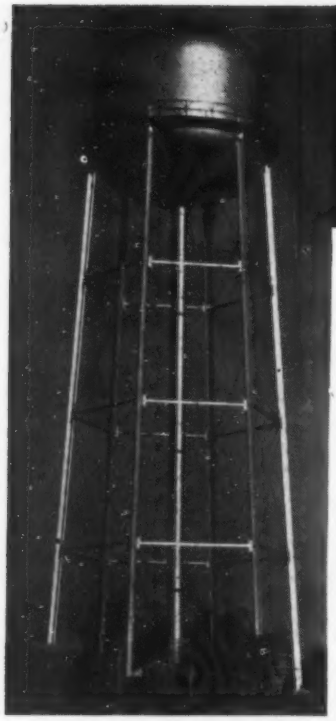
The new cap bar is adjustable for each roll, has a positive locking device, and reduces average power consumption.

Send for the new Dixon SLIXONICE booklet. It tells all about the new cap bar and the new SLIXONICE saddle. You'll see just how this startling combination can cut your spinning costs and improve the quality of your yarn.

*Trade Mark; Pat. Applied For

DIXON

LUBRICATING SADDLE CO
Established 1876
BRISTOL — RHODE ISLAND
Sole Manufacturers of
SLIXONICE
Saddles and Cap Bar Nebs



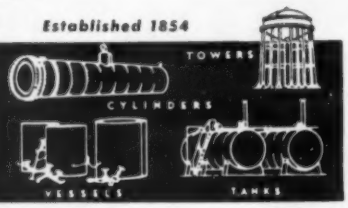
TOPS IN TANKS

• For nearly a century, Cole has been designing and erecting elevated tanks for the textile industry. Mill engineers know from experience that Cole tanks deliver the most dependable water service for sprinkler systems and general use, with the very lowest maintenance cost. Call on Cole for assistance with your problems.

Write for the latest Cole catalog — "TANK TALK"

R. D. COLE
MANUFACTURING CO.
NEWNAN, GA.

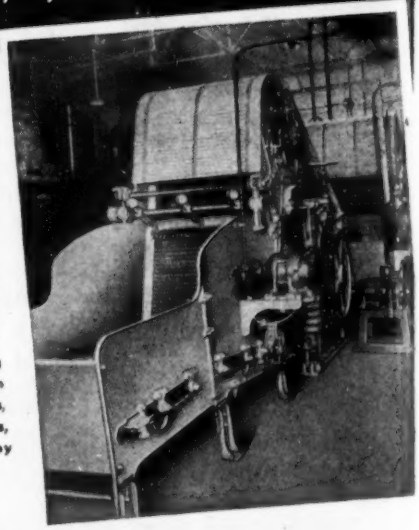
Established 1854



SARGENT'S
CONTINUOUS — AUTOMATIC EXTRACTING MACHINE
Reduces drying costs to a minimum

TODAY'S MODERN EFFICIENT METHOD

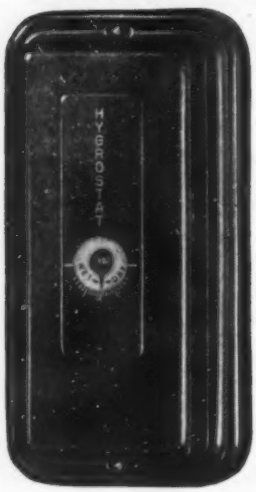
The SARGENT CONTINUOUS EXTRACTING SYSTEM is saving thousands of dollars for many woolen, worsted and cotton mills. It employs an Automatic Feeder, the Extracting or Squeeze Roll Machine, and a Stock Dryer. This method of removing surplus dye, bleach, or scouring liquor from wool, staple rayon fibres, shoddy, mixed fibres, cotton and cotton linters, before drying, offers many distinct advantages.



Write us for complete details

C. G. SARGENT'S SONS CORPORATION
GRANITEVILLE, MASSACHUSETTS, U.S.A.

Want More Accurate HUMIDITY Control?



POWERS new type 190 Hygrostat may be your answer. It is pneumatically operated, sensitive to the slightest changes in relative humidity. Users state "it is the most accurate hygrostat made."

Controls valves or dampers in connection with heating or cooling coils, humidifiers, air washers, humidifying atomizers, spray nozzles, etc.

Used in processing and storage rooms in textile mills, industrial plants, laboratories, printing plants, telephone exchanges, and comfort air conditioning systems in all types of buildings.

Easy to install. Room and duct type instruments. Test one. You'll buy more to replace obsolete, inaccurate controls. Get Bulletin 302 for complete details.

THE POWERS REGULATOR CO., 277 Greenview Ave., CHICAGO 14, ILL. • NEW YORK • LOS ANGELES.
(HY-1)

★ OFFICES IN 50 CITIES ★

POWERS

Over 55 years of TEMPERATURE and HUMIDITY CONTROL

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

U. S. RING TRAVELERS

Prompt Delivery from warehouse stocks in Greenville and Providence

Our Southern and Northern warehouse stocks permit same-day or overnight delivery 'most anywhere. Take advantage of these ready-to-ship sources of the finest travelers money can buy . . . And for service men who can talk with you and work with you on the spot, 'phone, wire or write Providence or Greenville, who will head a man your way promptly. A call to U. S. is a call that gets ACTION.

WORKING SAMPLES GLADLY SENT

U. S. RING TRAVELER CO.
AMOS M. BOWEN, President & Treasurer
HOME OFFICE & FACTORY: PROVIDENCE, R. I.
SOUTHERN OFFICE & WAREHOUSE: GREENVILLE, S. C.

Write, wire or phone nearest office

W. P. Vaughan, W. H. Rose, Greenville, S. C. — Box 1048—Phone 3031
O. S. Land, Athens, Ga. — Box 1187—Phone 478
L. H. Meller, Jr., Mid Atlantic States, 123 Treaty Rd., Drexel Hill, Pa. — Phone Hilltop 2946
H. R. Fisher, Concord, N. C. — Box 83—Phone 8366
C. W. Smith, H. J. Smith, Providence — Box 1187—Gaspee 0100

E. Slater has been appointed industry engineer in charge of food industry applications for measuring and controlling devices made by Brown and Minneapolis-Honeywell.

Amalgamated Chemical Corp., Philadelphia, Pa., has named Hillary Robinette, Jr., formerly associated

Mr. Robinette

with the new products division of Publicker Industries, Inc., Philadelphia, as research director and will head an expanded consulting service.

Clark Equipment Co. has expanded facilities for servicing fork trucks and industrial tractors. Several new units have been added and the stations are located at Baltimore, Md., Brooklyn, N. Y., Malden (Boston), Mass., Chicago, Ill., Detroit, Mich., Indianapolis, Ind., Los Angeles., Cal., Memphis, Tenn., Minneapolis, Minn., New York, N. Y., Norfolk, Va., Oakland, Cal., Philadelphia, Pa., St. Louis, Mo., Seattle, Wash., and West Allis (Milwaukee), Wis. Additional units are in the process of establishment.

Mr. Brewer

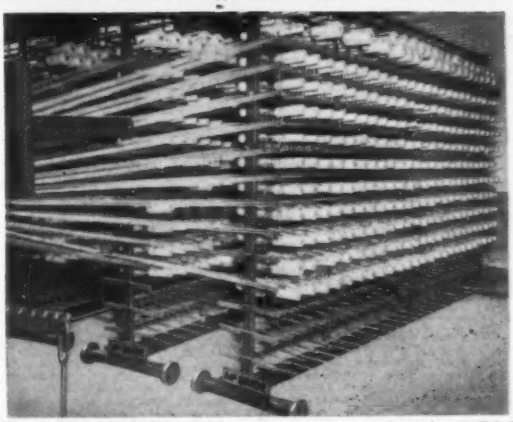
Nopco Chemical Co., Harrison, N. J., has appointed Walter E. Brewer, formerly acting as sales representative in Eastern Pennsylvania, as district sales manager for the newly formed eastern district; this comprises the Middle Atlantic states from New York City to Virginia.

McBRIDE

The NEW McBride

All Metal Jacquard Plush Creel

Creels For Warping, Winding, Weaving, Knitting



This Creel Used In Weaving All Types Of Pile Fabrics

ALL WELDED STEEL CONSTRUCTION

Replacing old wooden type

MORE DURABLE — NO MORE LOOSE PINS

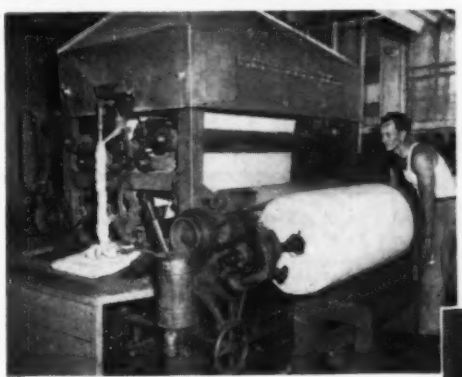
Better Air Circulation—More Light Behind Looms

Our Patented Adjustable Guide Bars

With Either Brass Or Porcelain Eyelets

EDWARD J. McBRIDE

Adams Avenue & Leiper Street—Philadelphia, Pennsylvania—Phone Jefferson 5-8622



How to CONTROL QUALITY of Dyed Goods

***with* FULLERGRIPT SINGEING BRUSHES**

Your goods can be dyed evenly, free of streaks and discolorations, thanks to the distributed sweeping action of Fullergript brushes in the singeing machine. With Fullergript the brush material extends from a metal channel as a continuous strip. Consequently, the brushing action all across your fabric is uniform. There is *no* shifting of warp or filling threads. For this reason the subsequent dyeing is likewise uniform.

For many years the Hollywood Piece Dye Works of Passaic, New Jersey, has controlled quality by standardizing on Fullergript singeing machine brushes. With a production of 450,000 yards weekly, on a machine equipped with four brush rolls, this concern finds their Fullergript brushes have an average of 18 months service life. When these brush strips are replaced, the change can be made quickly, without dismantling the machine. But now that this type of Fullergript brush is given a fireproof coating, Hollywood looks to even longer life from their singeing machine.

Because singeing brushes have a direct effect on your profit picture, it would be well for you to investigate Fullergript thoroughly. Simply write to . . .

FULLERGRIPT

THE FULLER BRUSH CO.

INDUSTRIAL DIVISION • 3622 MAIN STREET • HARTFORD 2, CONN.

CLASSIFIED ADS

BUSINESS—EMPLOYMENT—EQUIPMENT—PROFESSIONAL CARDS—OPPORTUNITIES

CLASSIFIED RATES

Rates are net, payable in advance each month. Page is 3 columns, 10 inches deep—30 inches to page. Space measured by even inch vertically by 1, 2 or 3 columns in width. Column width 2¼ inches.
Transient rate for display classified, $8.00 per inch.
Contract rate for space within 12 months period as follows:

	Per Inch		Per Inch
12 inches	$7.50	48 inches	$6.75
24 inches	7.25	96 inches	6.50
36 inches	7.00	180 inches	6.00

POSITION WANTED: 10c per word per insertion; minimum charge $2.00. Cash with order. Box number address care of TEXTILE INDUSTRIES, Grant Bldg., Atlanta 3, Ga., count as eight words. Advertisements for help wanted, equipment for sale, for rent or wanted, and professional cards are accepted at display rates only.

MEN WANTED—POSITIONS OPEN For Southern mills—Tricot knit goods manufacturer $8,000-10,000; superintendents for worsted and woolen yarn and cloth manufacturing plants; textile mill engineers and time study men; assistant superintendent rayon fabric mill $6,000-8,000; assistant superintendent weaving, slashing and cloth rooms print cloth mill $500-600 month and bonus; assistant designer cotton goods; chemists for research and analytical work; overseer corduroy finishing; overseer sewing knitted or woven fabrics; cloth room overseer coarse cotton fabrics; overseer woolen carding and spinning combined; overseer woolen finishing and second hand raw stock woolen dyeing; wool grader; cotton card grinder, 3d shift, also managers, superintendents, assistant superintendents, designers, overseers, second hands and fixers for mills in the Northern and Southern States, South America, Mexico and other foreign countries.

We invite correspondence with executives seeking positions and with employers seeking new personnel.

CHARLES P. RAYMOND SERVICE, INC.

294 WASHINGTON STREET Phone: Liberty 2-6547 BOSTON 8, MASS.

Over 50 years of confidential employment service for men seeking positions and employers seeking men.

FOR SALE

4—Three Ton Kiers
2—60" Tolhurst Extractors
1—60'50" Butterworth Tenter Frame
1—3-roll Padder 50"
Lot of NEW Card Clothing for 48" Cards
2—Van Vlaanderen 54" 2-roll Embossers
1—K and B 72" Decater
1—V.V. 60" Hydraulic Calender.

We Make NEW Dry Cans, S.S. or Copper, any width and diameter, excellent delivery.

THE KEY TO SAVING TIME AND MONEY
CONSOLIDATED PRODUCTS COMPANY, INC.
33-41 Bergen Street
PATERSON 2, N. J.
Armory 4-6540
Have You Any Idle Equipment for Sale?

P. O. Box 1816 **LOOM SPECIALISTS** Phone 2-2721

Largest Warehouse Stock in the South

WE BUY, SELL OR TRADE USED TEXTILE MACHINERY AND SUPPLIES

LEON KIMMEL MACHINERY COMPANY

OFFICE AND WAREHOUSE: New Spartanburg Hwy.—GREENVILLE, S. C.

POSITION WANTED

Foreman-Fixer desires position with Seamless Hosiery Mill. 20 years experience on all types of circular hosiery machines. Able to take complete charge of knitting department. Excellent references. For complete details write Box 226, TEXTILE INDUSTRIES, Grant Bldg., Atlanta, Ga.

WANTED: Assistant Overseer of Spinning large Alabama mill.

WANTED: Assistant Overseer of Carding large Alabama mill.

WANTED: Assistant Overseer of Spool, Warp, and Slashing, large Alabama mill.

Box 222, TEXTILE INDUSTRIES, Grant Bldg., Atlanta, Ga.

PAUL B. EATON

Patent Attorney
1208 Johnston Bldg.,
Charlotte, N. C.
753 Munsey Bldg.,
Washington, D. C.

POSITION WANTED

As supervisor of maintenance and construction in textile mill. Thoroughly familiar with mechanical, electrical, and power problems. Box 242, TEXTILE INDUSTRIES, Grant Bldg., Atlanta 3, Georgia.

JAMES E. FITZGERALD

Specializing in the Purchase and Sale of Used Textile Preparatory and Finishing Machinery.
Tel. 8-5616
10 Purchase Street, Fall River, Mass.

TEXTILE AUXILIARIES

New and Used Textile Finishing Machinery and Supplies.
Home of Bulldog Expanders.
PROVIDENCE, R. I. 15 ORMSBEE AVE.
Tel. Dexter 9650 and 6837

THE PRIVATE EMPLOYMENT SERVICE
"For The Better Applicants"
Alton Hicks, Mgr.
• Technical • Administrative
• Sales **PERSONNEL**
403-4 Chamber of Commerce Bldg.
MAin 8992 ATLANTA

DYESTUFFS

Will buy your surplus and obsolete dyes and chemicals for cash.

NEW ENGLAND PRODUCTS CO.
91 Oliver St. Boston, Mass.

H. E. LINDERSON

Textile Machinery

LIQUIDATIONS—APPRAISALS

Tel. Jackson 7075 P. O. Box 505, Providence, R. I.
35 Westminster Street

POSITION WANTED:

As Superintendent or General Superintendent of small Southern plant. 20 years experience in textiles including all types of yarns, spun rayons and blends, having held positions as second hand and overseer. Married, member of Southern New England Textile Club, Boston Textile Club and Masonry. Can furnish highest type references. Desirous of locating in the South with good concern, salary being secondary to opportunity. Am open and ready to accept a position at once. Box 234, TEXTILE INDUSTRIES, Grant Bldg., Atlanta 3, Ga.

CORDUROY GREIGE GOODS WANTED

Large, well-established converter, financially responsible, interested in contacting Cotton Mill now weaving or capable of weaving Corduroy Greige Goods. Can use large quantities, or take entire output on a steady and confined basis. Fullest cooperation will be given. Excellent opportunity for a highly satisfactory and permanent connection. Strictly confidential. Give details. Box 239.

TEXTILE INDUSTRIES

GRANT BUILDING **ATLANTA 3, GA.**

POSITION WANTED

Textile Engineer with over 20 years experience in all phases of cotton textile manufacturing including designing, cost and purchasing on both carded and combed, white and colored work desires connections. Can give best of references both on ability and personal character. Age 39 years, married. Box 230, TEXTILE INDUSTRIES, Grant Bldg., Atlanta 3, Ga.

WANTED

Experienced Cloth Room Overseer for large coarse goods mill in Alabama. Box 238, TEXTILE INDUSTRIES, Grant Bldg., Atlanta 3, Ga.

POSITION WANTED

Carding Overseer. Specialized. Proven ability. 18 years on combed and carded stock. Age 45. Family. Good health. Fine references in and out of mill. Short notice. Box 235, TEXTILE INDUSTRIES, Grant Bldg., Atlanta 3, Ga.

WANTED

Sales Agent for Southern plant making special screw products, special machine parts and cut gears. Box 236, TEXTILE INDUSTRIES, Grant Bldg., Atlanta 3, Ga.

FOR SALE

Small Machine Shop Equipment:

1 small lathe 9" drop, 1 large lathe 20" drop with other equipment, drill press, grinding wheel, new set of reamers, new drills, and other items. Can be inspected in shop. Box 237, TEXTILE INDUSTRIES, Grant Bldg., Atlanta 3, Ga.

WOOLEN CARDER

With 28 years experience as overseer, desires position with reputable and progressive firm. Age 55, in good health, settled. References. Box 240, TEXTILE INDUSTRIES, Grant Building, Atlanta 3, Ga.

SALES REPRESENTATIVE WANTED:

Large manufacturer of skewers. Is looking for representative on commission basis, who calls on the spinning mills. Box 232, TEXTILE INDUSTRIES, Grant Bldg., Atlanta 3, Ga.

WANTED TO RENT

Three-bedroom house or apartment, unfurnished, somewhere in 30 mile radius of Charlotte. Write or wire collect. Box 241, TEXTILE INDUSTRIES, Grant Bldg., Atlanta 3, Ga.

Your Advertisement on This Page

will produce results at small cost. Do you desire a position? Do you desire a good man to fill a vacancy in your mill? Do you desire your business or professional card placed before the textile industries?

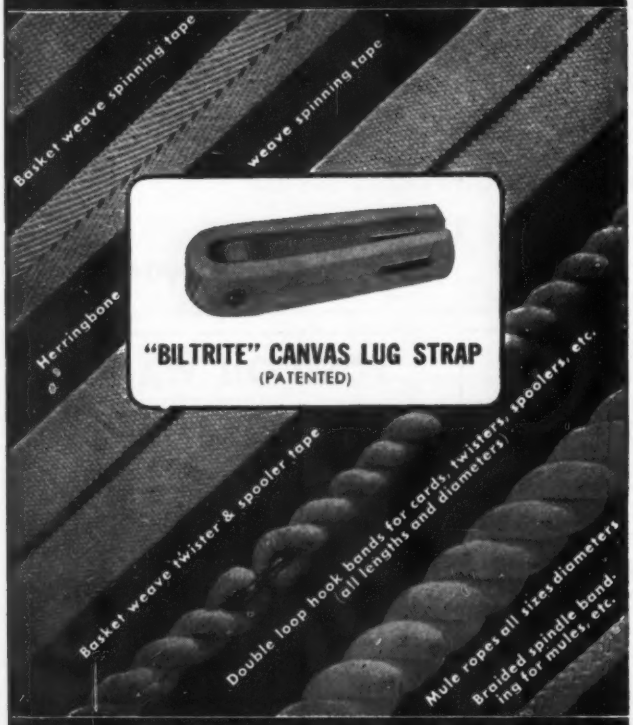
Why not try an advertisement on this page of TEXTILE INDUSTRIES? Its 21,000 copies per month reach the textile executives, superintendents and heads of departments throughout the industry.

Note the rates and send in your advertisement today.

TEXTILE INDUSTRIES

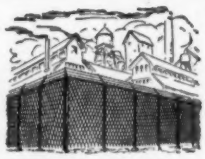
GRANT BUILDING **ATLANTA 3, GEORGIA**

LAMBETH PRODUCTS
FOR SPINNING, TWISTING, SPOOLING, WEAVING


Basket weave spinning tape
weave spinning tape
Herringbone
"BILTRITE" CANVAS LUG STRAP
(PATENTED)
Basket weave twister & spooler tape
Double loop hook bands for cards, twisters, spoolers, etc. (all lengths and diameters)
Mule ropes all sizes diameters
Braided spindle band-ing for mules, etc.

LAMBETH ROPE CORPORATION
NEW BEDFORD, MASS., U. S. A.

PROTECTED *by* STEWART



STEWART 3TH CHAIN LINK WIRE FENSE

Trespassers think twice before they tackle a Stewart All-Beam Chain Link Wire Fence because it's the heaviest and strongest manufactured. Write for catalog No. 83. Stewart also makes wire mesh partitions, window guards, steel settees, railings, etc.

THE STEWART
IRON WORKS CO., INC.
1524 Stewart Block
CINCINNATI 1, OHIO

Stewart IRON and WIRE FENCES

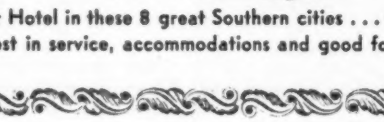
CAMS

Our ROWBOTTOM cam cutting facilities are at your disposal for your cam requirements.

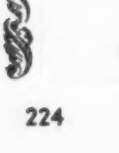
Let us have your inquiries.

BLOOMFIELD TOOL CORP.
31 FARRAND ST. BLOOMFIELD, N. J.

8 Friendly "Ports of Call"
in the Southland



Choose the Dinkler Hotel in these 8 great Southern cities . . . and be sure of the finest in service, accommodations and good food!



IN ATLANTA . . . . . The Ansley
Joe Crocy, Manager
IN BIRMINGHAM . . . . The Tutwiler
Ira M. Patton, Manager
IN MONTGOMERY The Jefferson Davis
Homer Spiva, Manager
IN NEW ORLEANS . . The St. Charles
J. J. ("Mike") O'Leary, Vice President & Manager
IN SAVANNAH. . . . . The Savannah
George Fowler, Manager
IN NASHVILLE . . The Andrew Jackson
Leon Womble, Manager
IN LOUISVILLE . . . . . The Kentucky
James E. Rushin, Manager
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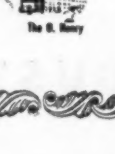
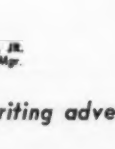

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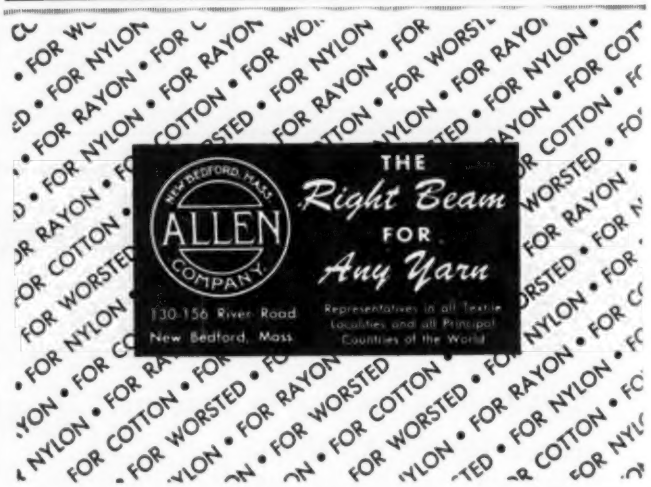

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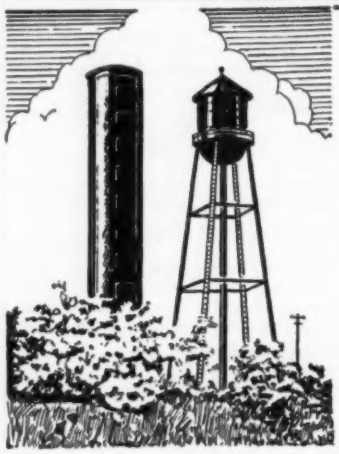

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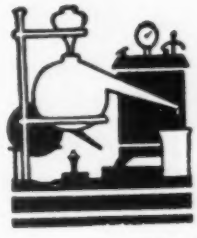

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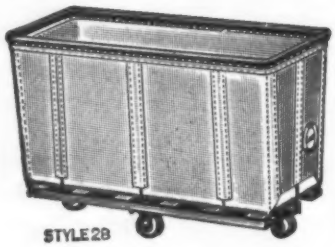

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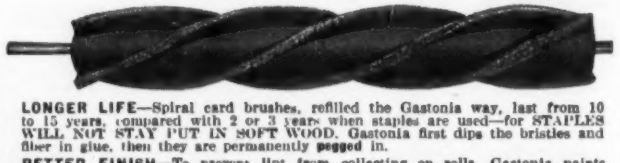

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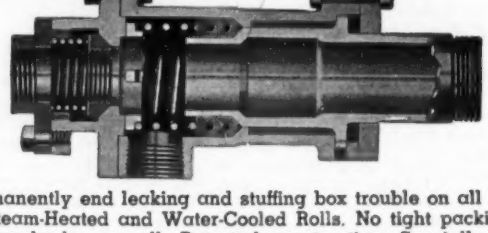

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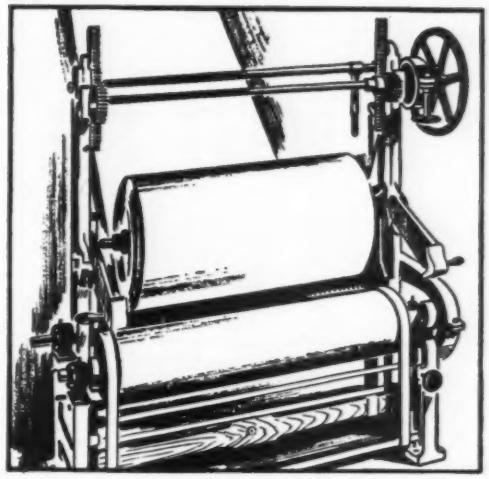

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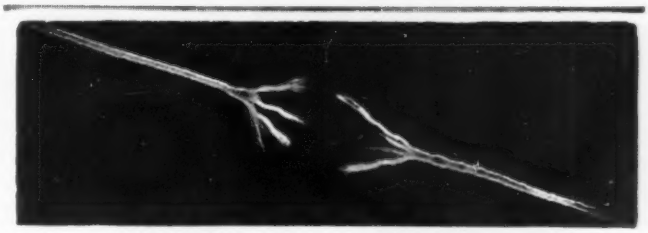

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WOONSOCKET, R. I. GREENVILLE, S. C.

SALES OFFICES IN NEW YORK AND CHICAGO

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